ORISSA REVIEW

Shri J. B. Patnaik, Chief Minister of Orissa delivering the inaugural address after inaugurating the All India Rural Sports meet held at Puri.

Among others Shri Gangadhar Mohapatra, Minister of Education and Shri Jugal Kishore Patnaik, Minister of State for Sports and Culture also attended the function.

Dance and Music was presented by Shri Ananda Shankar and his troup on November 28, 1980 at Rabindra Mandap, Bhubaneswar in aid. of Orissa State Council for Child Welfare Fund.

Photo shows the Governor of Orissa Shri C. M. Poonacha discussing with Shri Ananda Shankar.

Chief Minister, Shri J. B. Patnaik

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Our Cover

Shri C. M. Poonacha, Governor of Orissa Presenting a Silver Filigree Chariot to Prince Charles

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ORISSA REVIEW seeks to provide a condensed record of the activities and official announcements of the Government of Orissa and other useful information. Many items appear in summarised form. Such items should not be treated as complete and authoritative versions.

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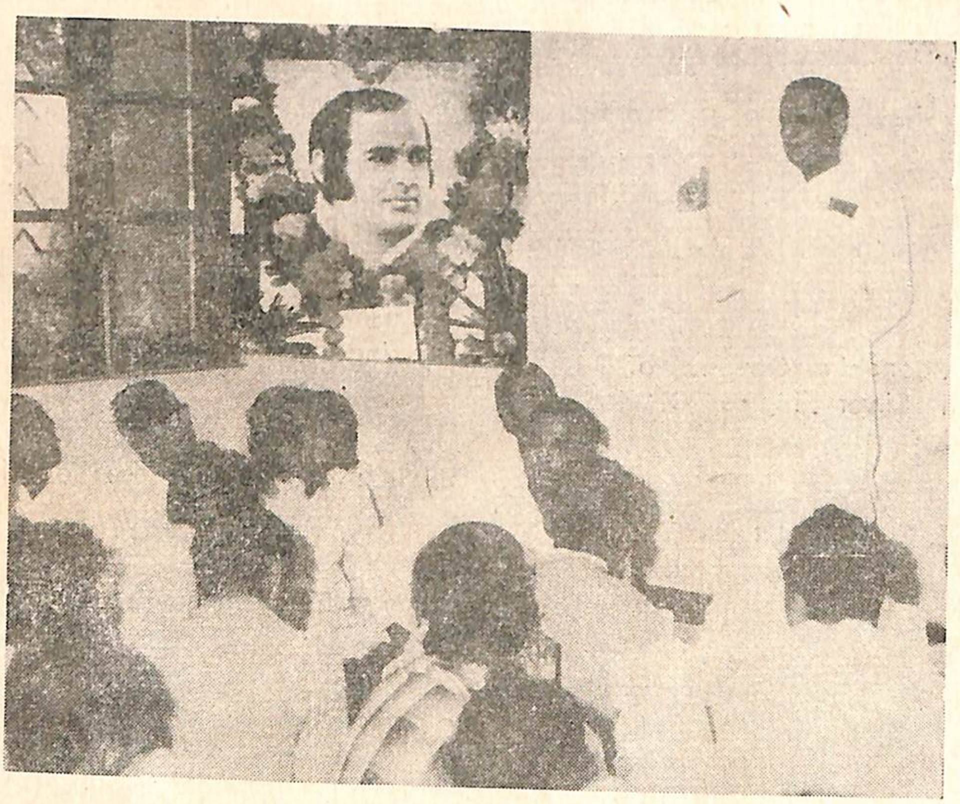

The Chief Minister Shri J. B. Patnaik speaking on the occasion of the Birthday Celebration of Late Sanjay Gandhi on November 14, 1980.

YOGINI CULT IN ORISSA

Dr. H. C. DASH

In the history of Indian religions, Sakta-tantrism occupies a unique place for throwing its portals open to the people of all strata in the Society. This religion played a conspicuous role individually as well as collectively (with other religions) in shaping the Indian way of life and in enriching Indian art and architecture, language and literature. The rich cultural heritage of this country is greatly indebted to this religion without which the Indian culture would not have been so splendid, wealthy, colourful, diverse, all comprenhensive, all pervasive, mythical and mysterious. The career of this religion is, therefore, remarkable for its manifold contributions to our cultural heritage.

The cult of Yogini, the subject of discussion in this peper, is a very important manifestation of the creative energy (Sakti) who is the omnipotent, omnipresent, omniscient creator, preserver and destroyer of the universe. The esoteric practices of the Kaula-Kapalika sects associated with this cult made it more mystic and mysterious. The origin of Yogini cult is shrouded in mystery. Archaeologists, historians, indologists, philosophers and art historians have made serious attempt to carry on systematic study of this obscure cult and postulated various theories to explain it. But no consensus has emerged to explain it satisfactorily. The main reason for this is the non-availability of authentic texts.

We have the reference to the term Yoginis as manifestations of female principle in Vedic and Post-Vedic literature. But Yogini as a separate Sakta-tantric cult came into existence only in the 6th/7th century A. D. when the afflorescence of Saktism, tantrism and Saivism either in individual form or in combination swayed the religious realm of India. Since then the cult continued to flourish and the propitiators acquired magical and supernatural faculties through the help of the Yoginis. Through the process of transformation over the ages the Yoginis finally multiplied into sixty-four gaining supremacy particularly in the eastern zone of India. Mastyendranath in view of the popularity of this cult systematised and expounded it in his work *Kaula Yajnanirnya* which has become the authoritative text in the subject.

The remains of Yogini temples in various parts of India belonging to the period from the 8th to 12th century A. D. clearly reveal that the exponents of this esoteric cult made Vigorous attempt to popularise it in all parts of India. Nine yogini temples discovered so far are distributed in Orissa, Madhya Pradesh, Uttar Pradesh and Coimbatore district of Kerala. Of these four were discovered before 1875 by the foreign archaeologists, Bheraghat and Khajuraho in Madhya Pradesh, Ranipur Jharial in Orissa and Coimbatore in South. The remains of other five yogini temples are found at Sahadole in Madhya Pradesh, at Mituali and Dudhei in Lalitapur district of Utter Pradesh, at Lakhari in the Banda district of Uttar Pradesh and at Hirapur near Bhubaneswar of Orissa discovered by Shri K. N. Mohapatra, ex-Superintendent of Archaeology. All these temples except at Khajuraho, are hypaethral in appearance and open to the sky. The different shape of Khajuraho temple was due to the narrowness of the ridge on which it was erected. Each of these temples has 64 niches assigned to 64 Yogini. The existence of 64 yoginis in all these temples proves that the number 64 was prescribed here as for the 64 Bhairavas, 64 Arts, Sixty-four modes of Sexual enjoyment (Ratibandha), etc.

For the study of Origin and evolution of the Yoginis we have to depend mostly on the Puranic accounts, tantras, popular stories and extant archaeological remains. But it is an established fact that the yogini cult in some form or other was practised by the non-vedic and pre-vedic people which later on crept into the vedic world. The tantric form of worship gained currency and popularity at a later time. Then on the one hand there existed complicated and elaborate vedic sacrifices involving long time for performance segregating a large section of the society from it, on the other hand, there was Upanishadic philosophy for acquiring trancendental knowledge beyond the intellect of the common people. The tantras at this critical juncture appeared to lay before the common mass a philosophy both theoritical and practical, easily accessible to all types of people in society. The exponents of tantras brought into their group the essential ingredients of Vedic sacrifices, the monotheistic philosophy of the Upanishada, the Bhakti religion of the puranas, the Yogic methods propounded by Patanjali, and the mantra aspects of the Atharva Veda. These combined together appealed to all, particularly to those on the lower rungs of the social hierarchy. The tantras, therefore, stand for rituals, for religion, for medicine, magic, mantra, yantra etc. The special characteristic features of the tantras are that they are extremely liberal and open to all castes and both sexes without any restrictions. This catholocity of the tantric religion stood on the one hand against the vedic practices and metaphysical philosophy of the Upanishads and controlled the general mass by dint of its appeal.

Here it may be mentioned that in the medieval period Sakta tantrism was concentrated mainly in four main centres of India. These four centres according to Hevajra Tanta, compiled in the 7th century A. D., were Uddiyana (located in Orissa), Kamarupa, Purnagiri and Jalandhar. Udra, according to inscriptions was a Visaya or district in the Uttar Tosali, comprising the present regions of Dhenkanal, Talcher, Balasore district, northern Cuttack and Midnapur. In consideration of this hypothesis, Kalika Purana states that the first Brahmanical tantric pitha in India originated and developed in Odradesh, the presiding deity of which is Lord Jagannath.

> "ଉଡ୍ରାକ୍ଷଂ ପ୍ରଥମଂ ପୀଠଂ ଦ୍ୱିତୀୟ ଜାଳ ଶୈଳକଂ
> ତୃତୀୟ ପୂର୍ଣ୍ଣ ପୀଠନ୍ତୁ କାମ ରୂପଂ ଚତୁର୍ଥକଂ,
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> ଉଡ୍ରପୀଠଂ ପର୍ଶ୍ଚିମେତୁ ତଥେବେ। ଈଶ୍ୱରୀ ଶିବା।
> କାତ୍ୟାୟନୀ ଜଗନ୍ନାଥ ମୋତ୍ତ୍ରେଶଂଚ ପ୍ରପଜୟେତ୍,
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> ଜାଳନ୍ଧିରଂ ଲିଖେତ୍ ପୀଠଂ ମୁତ୍ତର ପର୍ଶ୍ଚିମେଲିଖେତ୍
> ଓଡ୍ରପୀଠଂ ଦର୍କ୍ଷିଣେତୁ କାମ ରୂପନ୍ତୁ ପୂର୍ବତଃ"

The existence of a large number of Sakta tantric and Saiva temples concentrated mainly at Bhubaneswar, Puri, Jajpur, Prachi valley, Ranipur-Jharial and Belkhandi, 64 Jogini temples as many as 16 sets of Sapta matrkas in groups as well as individual shrines such as Varahi, Chamunda, Indrani, substantiate the statement of the Purana.

That the Sakta tantric cult had a very long career in Orissa is further avered by the existence of a numerous Sakta tantric works in palm leaf manuscripts. This includes Uddisa tantra, Kriyoddisaa tantra. Uddameswara tantra, Mahatantra, Tantra Chintamani, Saradachhana padhati, Bhubaneswar puja pallava, Durgochhava, Durgochhava chandrika, Durga Yajnadipilla, Tararchana tarangini Tarini Kula sudha tarangini, Yanaballi tantra Sivarchana paddhati, Banadurga puja, Symmarchana paddhati, Bhubaneswari prakasha Bidya padhati, Ugratara Padhati written by the scholars of Orissa along with 300 manuscripts on tantra written by the scholars of other parts of India, now preserved in the Orissa State Museum, Bhubaneswar. Several important works in Oriya such as, Kalikapurana, Chandipurana of Sarala Das, Bata abakasha, Mahavarata by Sarala Das and manuscripts dealing with magic composed in different periods up to the 18th century clearly establish the continuity and prevalence of Sakta tantrism in Orissa.

Here, it may not be out of the place to discuss in short the illustrious dynasties such as Bhoumakaras and early Soma Vamsis in Orissa who were responsible in erecting the Yogini temples along with other temples. The Bhouma period lasting for about two centuries (736—940 AD.) has been depicted as the golden age in the histroy of Orissa, Religion, Philosophy. Art and Architecture, language and literature embarked upon a new phase of development under their patronage.

The illustrious Bhoum rulers are marked for their religious catholicity, toleration, liberality and ecclectisism while some of the rulers were devout Buddhists, some were patrons of Vaisnavism, Sakta-Tantrism and Saivism. The entire Bhouma epoch saw a synthesis and intercourse between various religions and schools of philosophy and of scholasticism and mysticism. The medieval art and architecture fully availed itself of the synthesis of elevated thoughts. Thus the Bhouma rulers inspired with the passionate, romantic and human spirit and exalted by the myth, metaphysics and literature expressed their noble deeds through erection of Buddhist monasteries Sakta-tantric, Saivite and Vaisnava temples in different parts of Orissa. The Buddhist compleves at Ratnagiri, Lalitagiri and Udayagiri in Cuttack district, the colosal Sapta-Matrika images at Jajpur the Sakta temples of Mohini, Gauri, Vaital, Bhubaneswari, Savitri, Uttareswar and Sisireswara at Bhubaneswar, the Buddhist monastery at Baudh, the sixty-four Yogini temples at Hirapur, Varahi temple at Chaurasi, numerous images of Chamunda, Vairava and Mahisamardini Durga, particularly in the Prachi valley of Puri district, are assignable to the illustrious Bhouma epoch. This is corrborated by the accounts of Hieuen Tsang, who referred to a large number of Deva temples at Orissa along with monasteries.

It was during this period when there was a gradual amalmatgation of Saivism, Saktism and Vajrayana form of Mahayana Buddhism in this region. The temple of Vaital at Bhubaneswar, as for example, is a representative specimen containing the Sakta, Saiva and Buddhist images. With the introduction of Tantrism, Kapalika form of worship was introduced in certain temples.

Shri K. N. Mohapatra assigns the date of the 64 Yogini temples at Hirapur to the 8th century or early part of the 9th century A.D. when Brahminical tantric religion made headway in Orissa and several tantric temples. The work of Hirapur Yogini temple cannot possibly be placed in 8th century A.D. for, the workmanship and ornamentation of the sculptures here far excel the achievement of the 8th century. The temples of Vaital, Mohini, Uttereswara and Sisireswara at Bhubaneswar which are the works of 8th century A.D. appear from artistic and iconographic points of view to be inferior to the Yogini figures at Hirapur. The suggestion of Sri Mohapatra that the temple belongs to early part of 9th century A.D. is more plausible. Most probably the temple was built by Hira Mahadevi, queen of Santikar-II and the present village of Hirapur was named after her.

The temple complex of Ranipur-Jharial in the district of Bolangir may tentatively be construed as the works of early Somavamsis. The temples of this place dedicated to Siva, Sakti and Visnu are of spectacular importance in view of their sculpture and architecture. Ranipur-Jharial alone had as many as 200 temples half of which is in existence in good state of preservation. Sri K. N. Mohapatra, in consideration of the place describes it as the Bhubaneswar of Patna-Sambalpur region, The Laxman temple inscription at Siripur enlightens us that it was built by the queen Vasata, Mother of Mahasiva Gupta Balarjuna in the last part of the 7th century A. D. The Indralat brick temple at Ranipur Jharial, the earliest in the group being similar architecurally, to that of Laxman temple, may belong to the same period. Mr. Beglar places the temple to a century anterior to the numerous small plain stone temples noticed on the bare rock. He further states that the temple is a specimen of the Sripura type of brick temple. The largest of all the temples at Ranipur Jharial is the Somesvar temple built by Gagan Sivacharya, a famous Saiva Ascetic. On the basis of his inscription in the temple it is assigned to the middle of 9th century A. D. This is further attested by the Bilhari stone inscription. Cunningham assigns the sixty-four Yogini temple at Ranipur Jharial to the 9th century A. D. Hence the cluster of temples at Ranipur Jharial erected in honour of Siva-Vishnu and Sakti flourished during the period from 7th to 10th century A.D., identifying the place as a sacred Tirtha.

The hyparthral Yogini temples from a structural point of view appear to be a special class in Indian architecture. So far no Silpa Sastra relating to the architecure of the hyparthral temple has been found. In the absence of sufficient textual evidence scholars have not thrown substantial light on the architecture of circular yogini temples, stylistically and architecturally will be tentative rather than conclusive.

Some scholars are of the opinion that the architectural variety of Yogini temple is a departure from the Indian temple architecture. Charles Fabri is one such scholar who, while discussing the two Yogini temples of Orissa, points out that the structure of these temples is basically different from Brahmanic and other Hindu shrines and belongs to another world.

I am not inclined to accept his view that the architecture of Yogini temple is not basically different from Brahminic and other Hindu shrines. The Indian architecture has had multilinear rather than unilinear development. Regional peculiarities have made the temples yet more complicated differing stylistically from one group to the other. Of the numerous styles of temples developed through the ages in the vast sub-continent of India, the circular Yogini temples evidently from a distinct style, and the cult of Yogini is basically an integral part of the complicated Saktatantric pantheon, which is not beyond the scope of Brahminical religion. The cult of Yogini was similar to other Brahminical cults and has a continuous history for several centuries, with side distribution over a vast tract of the land.

Now the significant question remains with regard to the circular cloister. In the absence of relevant literature in this context we may consider terms such as 'mandala' 'yantra' and 'chakra' which possibly found expression in the form of circular Yogini temples.

The Samhita, Bhrihadaranyaka Upanisad and Puranas use Mandala in the sense of orb or circle. The nispanyya gaggali Abhyakara in the 12th century A. D. describes 26 mandalas each having a central deities and other minor divinities.

The Mandala is a pictorial representation of the one supreme consciousness. step by step, layer by layer into this creation of multitudinous forms. Equally it provides the scheme for the evolutionary return of the individual unit to the plenitude of the fundamental consciousness of the Head of all manifestations. This symbolic scheme is enlivened by a special occult process of tantric ritual. Conditions of the archetypal creation are recreated, as it were, by this condiguration. This framework is used by the practitioner for the evocation and re-integration in his individual mould. Thus, the mandala is no decorative imagery for a ritual. It provides a potent material focus for the operation of subtler force within and without. According to the Kularnava Tantra, worship becomes fruitless without a Mandala.

Another important item in Tantric worship is 'Yantra' (geometrical diagram) sometimes called chakra which is also found to a great extent in the Puranas. A Yantra is a diagram (figure) engraved, drawn or painted on metal, stone, paper or other material. It resembles a mandal but differs from it in that a mandal may be employed in the worship of any devata, while a yantra is specially appropriated to the worship of particular deity or employed for a particular purpose. The Kularnava-tantra states 'Yantra is a development (or product) of mantra and a deity apprehended in the form of a mantra; the deity worshipped on the yantra immediately becomes favourable; Yantra is so called because it removes all pains (or perturbations) arising from such faults as love and anger; if God is worshipped in yantras, he is pleased'. The same Tantra further says 'if worship is done without a yantra the devata is not pleased'.

The Chakra on the other hand, the wheel representing constant movement is specifically meant for a particular deity. The tantric worship leads the worshipper to the direct perception of the divine form and hence the chakra is considered very important in tantric worship. The chakras symbolising beauty, harmony and symmetry are drawn with straight lines, trangles, circles and spares with lotus motif. The chakra or the circle may be taken as representation of the principle which has no beginning and has no ending but is perfectly symmetrical. The yoginis, therefore. in a circular temple might represent such unending principle or mandala. Sri Chakra, the form of supreme sakti and Siva together, is verily the macrocosm as well as the microcosm, i.e., the body of the two in one, Siva sakti.

The hypaetheral temple at Hirapur. the earliest of all in India looks like a Gouripatta with a projection of 4′ in length, 2′-6″ in breadth and 5′ in height to its east. From the east there is a passage into the temple. The height of the enclosure from the ground level varies from 8′ to 9′, the length of the outer circumference 90′ and the diameter inside is 25′. The entire structure is made of a type of sondstone available in the neighbouring stone quarries with the foundation of laterite blocks. The measurement of passage is 8′ in length and 2′=6″ in breadth. The foundations of almost all the temples of Bhubaneswar are constructed of laterite blocks. The middle portion of the enclosure is embellished with a rectangular open mandapa known as Devi Mandapa (9′=6″×8′) the upper part of which shows recent reconstruction. From the ground level the Mandapa is 9′ high with four doors to the East, South, West and North respectively.. The niches in inner enclosure and the Devi Mandapa contains the images of Yoginis in chlorite stone and the outer surface contains nine images of Katyayani which will be dealt in detail in the next chapter.

The yogini temple at Ranipur Jharial is circular in shape with the inner diameter or 47 ft. and it is devoid of any projected passage like Hirapur. It contains 64 inches inside for the 64 yoginis. In the centre of the circular enclosure is seen a Mandapa that rests on four pillars enshrining an image of three-headed and eight-armed Siva in Tandava dance pose and the images of Ganesh and Parvati. The Mandapa here like that of Hirapur has been reconstructed recently. The temple had originally, its opening to the south side which is now closed up and converted into a niche containing a figure of Chamunda. Probably on closure of this door an entrance was made to the east side.

It has already been discussed earlier that the Yogini cult with its origin in the hoary past gained recognization in the 8th/9th century A. D. probably on the account of the increasing influence of the cult of the seven or eight mothers. Dr. N.N. Bhattacharya is of the opinion that the Yoginis were originally human beings, women or pristess who were possessed by goddesses and in course of time they were elevated to the position of divinities. The seven or eight mothers were multiplied to sixty-four or more. However, the cult as well as its occult practices and the philosophy are systematised and expounded by Mastyandranath in his work Kaulayajnanirnaya. He is described in his work as an incarnation of Bhairava Siva. The secret cult of Mastyendranath was practised in the company of women in a circle known as Yogini Kaula. He is stated to have expounded his secret Yogini Kaula at Kamarupa where every woman was a Yogini in company of whom he discovered his own cult. According to Kaulajnananirnaya the ultimate aim of the Kaula is the state in which the mind and the sight merged into the object to be visualised. The Soubhagya Bhaskar describes Kaula as Sakti and Akula as Siva, the union of the two is Kaula and the process of establishing this relationship is the Kaulamarga. Siva, the Akula is represented in the Yogini temples of Orissa and Khajuraho most superbly in supreme poise and beatitude with uplifted male organ symbolising the complete cessasion of the triple stirrings of consciousness, breath and semen. The image echoes the reconcillation of the impertionality of Yoga with the lyricism of sex. The Yoginis are sixty-four in number and are classified as Sahaja, Kulaja, Antyaja. According to another text the Yoginis are divided into Ksetraja, Pithaja, Yogaja and Mantraja based on a different principle. The first two groups of the second classification have association with the sacred pithas, the Yogaja's are propitiated with Yogic practives and the Mantrajas with Mantra. The mother goddess such as Brahmani, Maheswarim, Vaishnavi, etc. are classified as Yoginis. The Yogini Kaula of Matsyendra also refers to the worship of mystic circle (made up of 4, 8, 12, 64 and more angles, of KJN. patala 3) at the centre of which there is Siva. omnipresent, immovable and unqualified. The 64 Yoginis are, most probably so many angles representing the equal number of manifestations of Sakti embracing Siva. The circle thus forms a 'Lotus' reminding us of the famous tantrik Srichakra. The Yogini Kaula marga of Mastyendranath aimed at invoking the Saktis through Yoga and through external worship.

It is really perplexing as regards the number of Yoginis. Different sources have given different numbers but ultimately the number 64 appeared to have been accepted by all authorities. Of the 64 yoginis the principal seven or eight are known as mother goddesses, such as Brahmi, Maheswari, Kaumari, Baisnavi, Varahi, Indrani, Chamunda who according to Puranas were created to drink the blood oozing out from the wounds of Raktavija. It is probable that these eight principal mothers who are evidently the Yoginis, were multiplied to sixty-four.

In connection with discussion of the nomenclature of 64, it is necessary to to refer to 64 Kalas, who are taken to be the Sub-Saktis of Devi adorned with various ornaments holding weapons and associated with Bahanas, family members, etc. 64 Vairavas, the counter parts of the 64 Yoginis. Hence it may be mentioned that 64 Yoginis and Vairavas are the ramifications of malevolent (ugra) aspects.

I have collected 10 lists of 64 Yoginis including that of Beheraghat which are inscribed. The problem remains that each of the lists differs from the other except a few names of matrika. This problem confronted by the scholars is due to non-availability of texts. It 's strange that none to my knowledge has been fully successful in study of the Yogini cult. Not only that the iconographic features of the Yogini images in the existing Yogini temples of India differ from one centre to that of the other. This may be due to regional variation.

The 64 Yogini temple of Hirapur contains in the niches. The images of 64 Yoginis, Nava Katyayani, four images of Vairava and other figures. The Vairavas are in sitting posture, where as Yoginis are in standing pose carged out of chlorite stone. Shri K. N. Mohapatra while describing the images could identity 13 images. On the basis of the iconnographi features and the study of connected texts. I have identified as many as 34 images out of 64. The identified images are Jamuna, Gouri, Indrani, Varahi, Baisnavi, Pancha Varahi. Charchika, Vindhyavasini, Nandini, Kakarali, Kauberi, Bhalluka, Narasinghi. Kaumari, Mahamaya, Uttala, Averabhadini. Sitala, Abhaya, Maheswari, Ghatabari, Kali, Brahmani, Jywalamukhi, Agniye, Agnihotri, Chamunda, Ganga, Tarini, Gandhari, Suryaputri and three other river goddesses.

The pitha altogether contains 80 images out of which 63 are Yoginis (one is missing) nine Katyayanis, four Vairavas, two dwara-palas and two male figures. Out of the total 63 Yogini images, Mahamaya, the presiding deity of the pitha, is ten-armed, nineteen four-armed and forty-three two-armed, which indicates the predominance of two-armed figures.

Out of the sixty-four Yogini images at Ranipur Jharial ten are altogether missing. The recent count gives a list of total 47 images in the niches.

Both the temples circular in shape contain 64 niches each for 64 Yoginis. The purpose behind the construction of the two temples at two places might be same. They have round wall roughly with the height of a tall man, having no roof and have one entrance each with a rectangular mandap at the centre of the enclosure. Here ends the similarity the shrine at Hirapur has a passage containing four terrific figures where as it is absent at Ranipur Jharial. The figures of Katyayani, found on the exterior of Hirapur temple are absent at Ranipur Jharial. The Yogini images at Ranipur Jharial are not provided with Vahanas seen clearly associated with the images at Hirapur. Although standing figures predominate at both the places most of them at Ranipur Jharial are in dancing posture. Besides the images of Ranipur Jharial are carved in sandstone which through weather action have been greatly defaced, but at Hirapur, there are made of fine grand chlorite stone showing details of workmanship. So far the dimension of these pithas are concerned it is smaller at Hirapur than Ranipur Jharial and Bheraghat. In this context Charles Fabri remarks—

"The Ranipur Jharial area is far far larger than that at Hirapur, and completely lacks the enchanting mysterious secretive and intimate atmosphere of the fascinating shrine at Hirapur, a masterpiece from any point of view. That such an atmosphere is not purely an individual reaction but may be termed, as it were, a "built-in" element, purposely created, may be seen at one by any one visiting these two greatly differing shrines".

Superintendent of Mumeum, Orissa,
Bhubaneswar.

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BHARATPUR—
A Paradise for Birds and Bird Watchers

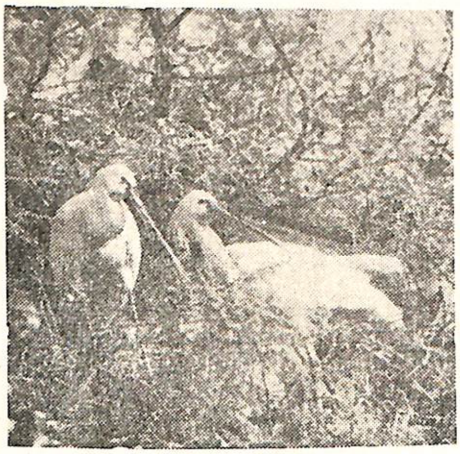
SHRI A. K. BANSAL

If you are interested in visiting the tourist spots on the land, I am sure that the places where nature is bountiful and manifests herself in full colours must provide added attraction for you. Undoubtedly, it has been said that as civilization advances, man looses contact with the nature but all the same the more advanced is the civilization the more attractive and fascinating are the thoughts to live in the vicinity of nature. Such being the case, a nature-loving tourist cannot, probably, afford to miss the place, I am going to talk about, for the simple reason that it is a unique natural bird sanctuary. One finds endless sheets of water with innumerable birds not only Indians but also the winter visitors who come from different parts of the globe.

Yes, I am talking about the famous Keola Deo Ghana Bird Sanctuary which can be named as a natural wonder without any erxaggeration. This nature wonder is situated just 56 Km. west of the manmade wonder depicting the story of love and affection of Mughal emperor in stone and clay—the well known Taj. The Sanctuary area is about 3 Km. in the East of the old Bharatpur town which has a unique place in history being known as Lohagarh the Unconquered Iron Fort and is encircled by four important towns of India. Delhi in the North (about 160 Km.) Agra, the city of Taj in the East (about 56 Km.), Mathura, the birth place of Lord Krihna in the North-East (about 35 Km.) and Jaipur, the famous pink city in the West (about 176 Km.) and is thus well connected from the rest of the world by Air, Train and Bus routes.

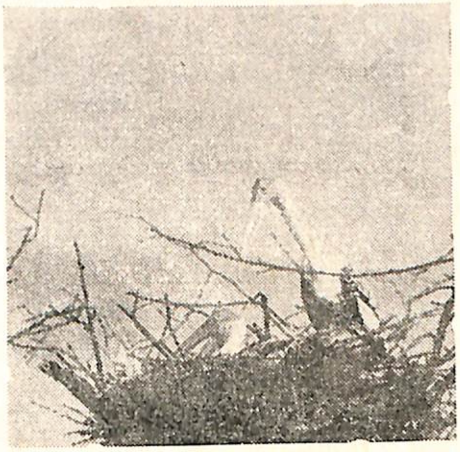
It may be surprising to note that this place was a private wild-fowl shooting reserve of the Maharaja of Bharatpur, not in distant past. The tale of slaughter of birds is written on a marble slab and there is an entry in the story of this inhumane act as late as in 1974, by the then Chief of Indian Army, who was the royal guest. In 1947 the rule of Maharajas ended in India. But the Maharaja of Bharatpur took care to retain his shooting rights. In 1969 the area was declared a Wild Life Sanctuary, but still the Maharaja's right to shoot continued. But with the growing compaign of ornithologists and bird watchers has taken effect and the Maharaja had to end his shooting parties. The place is now a breeding ground for the residential birds and the winter home of the migratory birds and is a really magnificent water-bird sanctuary. The credit for this conversion goes to Dr. Salim Ali, India's foremost and world's renowned ornithologist, who has been awarded the Padma Vibhushan, India's second highest civilian award.

The sanctuary comprises of a lake covering an area of about 3000 hectares, which is essentially a natural depression in the land, supporting a bushy forest growth with some medium sized babul trees standing half immersed in the lake water. The whole area is divided into smaller compartments by numerous roads and bunds. During rainy seasson water fills up to a depth of one to one and a half meter and normally there is some quantity of water all the year round. In addition to babul trees the lake supports many acquatic plants and small fish. In the season, there are an unimaginable lot of birds on the lake. They are in all the trees, floating in water, flying here and there and above all making their presence felt with screeching and trumpeling. In old days the lake was famed as best place in India for game birds. The Maharaja of Bharatpur did many things to improve a lake i.e. building up of a dam on a small river to ensure continuous supply of water and planting of trees etc. The Maharaja took pride in arranging shoots here.



A close look at a pair of Spoonbills the white plumes on their heads appear only in breeding season.

The conditions are improving day by day. The Forest Department of Rajastan,who is managing the sanctuary under the supervision of Divisional Forest Officer, Bharatpur Division, has taken the task to make the area more suitable to the birds, particularly the winter visitors from Siberia and other parts of the world. More trees are being planted gradually. The lake is being stocked with new varieties of fish. All efforts have been put in to make the area an ideal and yet natural habitat for the birds. The department has also taken care to provide better accommodation facilities for the bird lovers who visit the area to shoot the birds with camera in their hands rather than guns. What a pleasant replacement. The hunting lodge of the Maharaja is now a tourist rest house. The I. T. D. C. (Indian Tourist Ievelopment Corporation) has recently constructed a tourist lodge right inside that sanctuary with all modern amenities with a view to provide a better resting place for the human visitors.



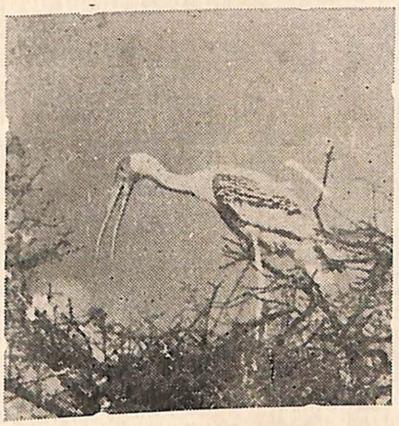
A pair of Painted Stork at their nest

The stopping of gun-shooting has made the birds fearless and they come here in ever increasing number. It seems as if they come to be shooted by the expert bird-watchers with cameras in their hands, whose number is also having an increasing trend. After the monsoon, the place becomes a vast heronry and there are huge congregation of non-migratory water birds. Normally five to six species build their nests on a tree The whole lake becomes covered with mass of twig platforms nests of assorted sizes in higgledly-piggledy closed trees. At this time even a casual visitor can see painted storks, white ibis, White agrests, Spoonbills with their slender shaped necks, and gracful purple and grey horons. As the breeding season comes to an end in the month of November, the bird population explodes with the addition of adolescents and the arrival of cold weather immigrants about 102 species of them including about 20 species of ducks, pelicans, grey and bear headed geese, flamingos and the rare Siberian crane.

A special feature of the lake is that one can easily reach any part of it in a small flat-bottomed boat, which can easily be arranged by the game warden of the sanctuary and one can have a close look at the beauty of nature in natural surroundings. As one moves in the boat, being put into motion by pushing a long bamboo against the lake bed, he is bound to see fascinating sights. The treats are full of birds and seem to have more birds than leaves on them. As five to six species of birds make their nests on a tree, different species can be seen feeding their young ones side by side in cool and calm atmosphere of the lake. But the different species are not always so co-operative and there are fights at times. The fights are more common among the prospecting mothers on trees for occupation of territory while building their nests and defending the same. But once they occupy place for them, there is almost perfect co-existence and one wonders how they ever manage to find out their nests on the same tree in all the jostling and confusion.

The sight in the sanctuary from October to February is very pleasant and worth enjoying at all times of the day, particularly in the early mornings and evening hours. The short winged black birds—the coots-have a unique take-off technique. One can see a flock of them floating and bobbing on the water and as the boat approaches them they decide to fly away as if to amuse their watchers, suddenly they start walking on the lake surface. they start walking on the water, leaving white trails on the lake surface Flapping their wings, they move faster and faster on the water until they have gained enough momentum for their wings to lift them up into the air. The take-off is just like the take-off by a plane after running over the runway.

The Siberian cranes with their snow-white colour and black-wing tips make pleasing pattern in the sky. The geese and ducks flying high in the sky make V and T shapes and such other distinctive flight patterns. Pairs of Sarus-cranes with their sonorous trumpting dancing darvish and courtship displays are spectacular features of marshy envirous of the Ghana. No less interesting to watch is a black-necked stork breeding on solitary tall trees.



Poised on a tree painted Stork

The feeding operation is a pleasant natural manner to be watched and appreciated. The parent bird alights on the edge of an untidy nest as the young ones excitedly shake their heads. The parent aims its bill directly down into the nest to disgorge the fish for the young ones to swallow. The greedier ones even thrust their beaks into the parents gullet to get at the food and speed up.

Even for a normal visitor, not much conversant with the art and science of bird-watching, it is delight just to wander on the water in a boat. An early moring boat journey is an experience never to be forgotten. It is cool then and everything glitters with the jewels of dew, in the silvery sunlight. The endless sheet of water reflecting the half-submerged trees in the light of morninng sun, the countless birds on them, the incessant flutter of wings and the constant movements of birds in search of food for themselves and for their young ones, make the scene really magnificent and unforgettable. The water lillis are in full flowers in different shades—white, pink and pale blue and add to the beauty.

The best time to visit the sanctuary to see the breeding birds is September and October and November to February, if you want to see the winter guests as well.

The sanctuary ranks high among similar places in the world. It certainly does not have anything equal to it in India. At no other place such great variety of birds (about 320 species) are to be seen as at Bharatpur. In no other sanctuary one is permitted to go so freely inside and so close to the nature. It is really wonderful to see the birds from so close, and birds do not seem to be afraid of others presence, either.

Thus, in many ways this is the World's best bird sanctuary, a real paradise for the birds as well as for the bird watchers.

Divisional Forest Officer, Khariar

CANCER RESEARCH & TREATMENT CENTRE FOR ORISSA

Government of India have decided to set up a Regional Centre for cancer research and treatment in the S. C. B. Medical College Hospital, Cuttack. Central assistance for development of this institute will be available for research, treatment and purchase of required equipments. State Government have already sent a proposal for Central grant of Rs. 53 lakhs during the current financial year to purchase equipments, etc., for the centre. Overall requirement of the institute is being worked out and proposal in this regard will be sent to Government of India later.

It has been decided to constitute a Governiag Body to supervise and over-view the working of the Institute which will consist of 5 representatives from the State Government and 3 from the Government of India. Other experts in the field of cancer research and treatment will also be invited to attend the meeting as and when necessary.

Cooperative in the Economy of Koraput District

SHRI R. N. MISHRA
AND
Dr. B. DAS

Koraput district occupies some 17 per cent of the State area. It is more than twice the size if Ganjam, thrice of Bolangir and four times of Balasore districts. The entire district lies on the Deccan plateau and is covered under the Eastern Ghat mountain range. The highest peak of the range, Deomali, 1,670 metres, occurs in Koraput district. It renders the climate of the area extreme with frosts in winter and at higher altitudes. The soil of the area is mostly laterite, sedentary and infertile. Some 62 per cent of the total area is therefore left under forests and only nearly 30 per cent is available for cropping.

The annual normal rainfall in the district is 152 cm., some 4 cm. higher than the State average. But the actual rainfall has tended to be as eratic as in the State. It was some 40 cm. less than normal in 1976, about 24 cm. more than normal in 1977, and nearly normal in 1978. There are also regional variations. The Jeypore plateau receives normal rainfall of 168·7 cm. per annum and comes under the maximum rainfall regions of the State. But it is dry in winter. Only 4·4 per cent of all cultivable land in the district has some irrigation facilities.

The S. T., S. C. and other population constitute 56·34, 13·41 and 30·24 per cent of the total **20·5** lakh population of the district. That 70 per cent of its population consists of scheduled tribes and scheduled castes is a very significant feature conditioning its economy. They generally constitute the poorer class of any society.

The Scheduled Tribes population and a part of the scheduled caste population live in the forest regions of the district. They live in an environmental economy. The forests of Koraput are rich in minor forest produce like siali leaves and fibres, sal resins, sabai grass, sunari bark, simuli cotton, sikaya, sal seeds, kusuma seeds, mahua flowers and seeds, marking nut, matgrass, genduli gum, hill brooms, tamarind, nux vomica, harida, bahada, amla etc. The tribal also cultivate palua, turmeric, kandula, jhudunga etc., in the hill slopes.

Among the agricultural produce rice is the staple crop accounting for about half the area put under foodgrains. Next to rice in order are ragi and maize. The area under certain major crops and their yield rate in comparison to the State average is shown in table No. 1

Rice and maize have an yield advantage, yet ragi is produced in 1·09 lakh hectares shows the limitations of the soil. Rice is cultivated mainly in the platueau areas free from drought or flood. Pulses and oilseeds as also the total foodgrains record a lower yield rate than the average produced in the State which indicates that marginal land is already drawn under the plough.

TABLE No. I

Major Agricultural Produce of Koraput District

Sl. No.	Crop	Area 1K. hectre	Production 1K. tons	Yield rate quintals	State yield rate quintals
(1)	(2)	(3)	(4)	(5)	(6)
1	Rice ..	3·78	3·90	15·64	15·26
2	Ragi ..	1·09	0·72	6·64	7·55
3	Maize ..	0·42	0·48	11·38	9·25
4	Pulses ..	1·18	0·58	4·86	5·05
5	Total Foodgrains ..	7·51	6·30	8·39	8·63
6	Total Oilseeds ..	1·25	0·56	4·50	6·43

Source--Orissa Agricultural Statistics 1978-79, D. A. F. P.

Co-operative is an instrument where through mutual help one can derive gains otherwise inattainable individually. Originally imported to facilitate farm credit it has expanded through time to encompass all fields of economic activity. It has been accepted as an instrument of planned development so much so that it has emerged as a district sector in the Indian economy alongside private and public sectors. It is left a state subject administered by a department through a network of circle offices. The sector is supported with a distinct set of act and rules, and bye-laws of individual societies. There are five co-operative circles in the district of Koraput viz., Koraput, Jeypore, Nowrangpur, Gunupur and Rayagada controlled by a divisional Deputy Registrar stationed at Jeypore.

As an instrument of agricultural development co-operation is applied in the field of farm credit, provision of inputs and disposal of outputs. Farm credit requirements are those for seasonal agricultural operations characterised as short-term credit, purchase of farm power and implements repayable in 5 years termed as the medium term credit, and largescale investments in farm repayable in 15 years called the long term credit. The first two categories are handled by the Central Co-operative Banks and the last by the Land Development Banks. The Koraput Central Co-operative Bank is one of the oldest institutions of its kind in the State catering to the entire district of Koraput. There are 198 primary agricultural credit societies through which the short and medium term loans are retailed.

During the co-operative year ending 30th June 1978 the primary agricultural credit societies of Koraput district together had Rs. 91 and Rs. 30 lakhs outstanding as short and medium term loans respectively. Long term credit in the district is purveyed through 4 primary Land Development Banks, 2 in the Jeypore circle and one each in the Nowrangpur and Rayagada circles. Their investment during 1977-78 has been of the order of Rs. 2·13, 1·13 and 1·87 lakhs circle (-) wise.

Provision of inputs and disposal of outputs are yet two another important farm services attended to by the 6 Regional Marketing Co-operative Societies in the district. During the year 1977-78 they provided agricultural requisites, mostly farm chemicals, worth Rs. 55 lakhs and sold agricultural produce worth Rs. 45 lakhs.

The other agro-services rendered by the co-operatives in Koraput district are in the field of irrigation. The irrigation society at Rayagada with a membership of 260 caters to nearly 700 hectares of farm land. During 1977-78 however it provided irrigation to only 200 hectares of land and received service charges of Rs. 1 lakh. It sustained a loss of Rs. 15,000 that year. The one at Jeypore with 47 members has provision for irrigating 82 hectares of land, but it did no business that year. There is also a joint farming society at Jeypore with 34 members and 259 hectares of farm land. But it cultivated only 10 hectares of land and just earned its living.

Co-operative is essentially an instrument for the upliftment of the downtrodden. Adivasis and Harizans constitute the poorer strata of any society. Co-operative has of necessity made its forays into the tribal tracts of Orissa since long. There were 23 Forest Marketing Societies in Koraput district run under the Tribal and Rural Welfare Department, Orissa, during 1962-63. The number had gone down to 10 by 1975-76 when it was decided to convert them into LAMPS. The Forest Marketing Societies used to take lease of minor forest produce coups, get the produce collected at wage and latter sale the produce polughing back the profits to the members. Latter they also purveyed essential consumer goods in the tribal areas. But the societies could not advance production and consumption loans so that the money-lender-*cum*-traders could still have their sway in the tribal economy with their usual practices. Largesized Agricultural Multipurpose Co-operative Societies have consequently been organised among the adivasis on lines with the Bawa Committee since 1975. These societies cater to the production and consumption needs of members, make provision of inputs and disposal of outputs of both agricultural and forest origin. Consequently, the forest marketing societies are being converted into LAMPS so that we get 56 LAMPS and only 2 Forest Marketing Societies in Koraput district as on 30th June 1978. The LAMPs advanced short and medium term loans of the order of Rs. 73 and Rs. 38 lakhs during 1977-78. They have however come under the Orissa State Tribal Development Co-operative Corporation in so far as their marketing and consumer activities are concerned. The relevant figures are however not easily obtainable for the present purpose. The two Forest Marketing Societies sold forest produce worth Rs. 5·90 lakhs that year which earned one of them a profit of Rs. 4,000 and the other, a loss of 46,000. The only surviving labour co-operative in the district having a membership of 79 sustained a loss of Rs. 1,000 in spite of all its inactivity during the year. Such societies seem to have outlived their necessity.

Livestock rearing is one of the gainful employment alongside crop husbandry. Any section of people anywhere can take to this as a main or subsidiary occupation depending upon the scale of operation. Koraput with plenty of forest resources offers vast scope for this. There is however, only one Diary C.S. at Rayagada with 69 members. That it made a profit of Rs. 7,000 during 1977-78 goes to show the potentialities of the district to encourage progress in the line.

There are other branches of co-operative activity which have benefited the people of Koraput district in general. The two Urban Banks in the district are at Jeypore and Rayagada. The Jeypore Urban Bank has a membership 1,346. Its loan outstanding amounts to Rs. 6·22 lakhs and it made investments of Rs. 1·05 lakhs during 1977-78. The one at Rayagada has 875 members. Its loan outstanding and investments in 1977-78 are of the order of Rs.0·59 and 0·16 lakhs. Of the employees credit co-operatives there are a total of 14 in the district.

The five in Koraput circle have a membership of 3385, and outstanding loans amounting to Rs. 9.20 lakhs.They invested Rs. 0·80 lakh during 1977-78. The 7 in Jeypore circle with a membership of 575 had outstanding loans amounting to Rs. 73,000 and invested only Rs. 3,000 during 1977-78. The one at Nawrangpur has yet to start business and the other at Rayagada started with an investment of Rs. 2,000 in 1977-78. In matters of urban banking Koraput is not that developed with a percentage of urbanisation as high as that of Cuttack Urban Banking in Koraput district may be expected to pick up soon.

There are 9 house building societies in Koraput district. The three in Jeypore circle have 351 members and Rs. 2·34 lakhs outstanding loans. They made profit of Rs. 5 thousand during the year. The single society at Nawrangpur has 127 members and Rs. 1·86 lakhs outstanding loans. It made a profit of Rs. 27,000 during 1977-78. The two in Gunupur and three in Rayagada circles were beginners during the year 1977-78 and had not much of business.

Labour contract and construction societies are yet another co-operative endeavour demonstrating the success of joint venture that would otherwise have been impossible for their individual members. There are 12 such societies in Koraput district. The two in Koraput circle have a membership of 334. They executed contract worth Rs. 11,000 employing only 18 labourers and made a profit of Rs. 1,000. The five each in Jeypore and Rayagada circles, having membership of 2,809 and 486 respectively had no work at hand during 1977-78. They seem to have outlived their necessity.

Consumer societies benefit all sections of society. Thrust, on consumer activity through co-operatives was made in the 60s. The Forest Marketing Societies were the first to take it as a part of their activity. Latter fair price shops were established by the state A. & H. W. Department. Independent consumer stores were started in the urban areas and latter the Regional Marketing Societies started consumer sections. Figures are unfortunately not readily obtainable for the LAMPS and the two FMCS did no consumer business during 1977-78. But the 6 Regional Marketing Societies purveyed consumer articles worth Rs. 54 lakhs in their area. There is a wholesale store at Rayagada operating through 3 branches which sold consumer goods worth Rs. 12 lakh during 1977-78. Thirtytwo of the 42 consumer stores operating in the district sold consumer goods worth Rs. 81 lakh but together they sustained a loss of Rs. 62,000. The rest 10 did no business that year.

Assessment :

The cooperative societies of Koraput district suffer from all the disabilities meted out by the sector in the state in general plus those arising from out of the peculiar problems of the district. The district of Koraput earlier under Jeypore Jamindary was tagged with Madras Presidency down to Orissa got its entity on 1st April 1936. Till then Koraput got peripherial treatment without any development work anywhere in the district. For example density of roads per 100 sq. Km. area is lowest at 22·39 Km. in Koraput among all the districts of Orissa as enumerated in March 1978 (ESO, 1977 p 77). With 56 per cent tribal, 13 per cent Harizan and 92 per cent rural population lack of infrastructure is again a serious handicap in the economic development of the region through whichever sector it may be sought to be achieved.

Economic development of Koraput is again very much dependent upon the development of its tribal and Harizan sections accounting for 70 per cent of its population. Because the earlier forms of co-operative endeavour failed in their goal, a tribal Development Co-operative Corporation has been formed in the state. The corporation is a replica of its Andhra counterpart. But the Orissa Corporation has not as much facilities extended to it by the Government of Orissa as is done in

Andhra. The collapse of the Forest Marketing Societies formed in the 60s' is due to this. The Boipariguda Forest Marketing Society reported in 1976 that its royalty on minor forest produce had increased nearly four fold between the years 1961-62 and 1974-75. In course of these years the forest resources had dwindled much due to shifting cultivation and illicit felling of trees. The group headed by the managing Director, OSTDCC., discussing the problem at the state level seminar on the role of co-operative in implementing the 20-point economic programme pointed out that as the hill-brooms royalty of Bhawanipatna division was as high as 80 paise per broom, the society was forced to pay 25 paisa only to the tribals per broom. The royalty rate was 83 paisa at Boipariguda.

The period of lease of minor forest produce is from 1st October to 30th September. The operation order received by the Boipariguda FMCS during the 5 years from 1970-71 to 1974-75 before its conversion into LAMP is as follows:—

TABLE No. II

Operation order for M. F. P. received by the Boipariguda F. M. C. S.

Year (1)	Date of receipt of lease order (2)	Days for which operation is delayed (3)	Total days lease is operated (4)
1970-71 ..	19-1-1971	110	255
1971-72 ..	25-11-1971	55	310
1972-73 ..	4-11-1972	34	331
1973-74 ..	20-12-1973	80	285
1974-75 ..	27-12-1973	87	278

Source—Collected from the Boipariguda F M C S in 1966, *See* Boipariguda F M C S: A case study, Orissa Review March-April, 1976, page 33—39.

Pending lease order the society can not collect or transport produce though rull royalty is paid for it the whole year. The tribals can not store their labour or suppress their hunger. They do not understand the intricacies of law; so start collection as soon as season breaks. The society can not prevent this, it only refuses to accept the stuff in which event private merchants purchase it at higher rates. The society in this way is thrown to loss proportionate to delay.

The other problem is when private lease holders operating in the neighbourhood encourage pilferage by offering higher rates than the society, private lease holders used to get lease for 3 years whereas societies formed by tribals who had enjoyed a traditional right of collection and sale of minor forest produce are given lease for one year. The study team on tribal development programme, 1969, observed that the "Forest Department is making the life of the tribals unnecessarily difficult". Now the Orissa State Tribal Development Co-operative Corporation takes lease and LAMPS operate as its agents. It is yet to be seen how easy the tribal life has become under the new set-up.

The entire district of Koraput is under Integrated Tribal Development Agency.

As is well known these programmes are a lot dependent on the co-operative set-up of the area for channelisation of funds. Loans under these programmes supported with subsidy, for implements, animal husbandry, horticulture and the like are available to the tribals. If co-operative is an instrument for the upliftment of the poor classes of any society, Koraput district with its preponderant tribal population is the best venue for it. The tribals are an aboriginal people simple in nature and true to their words. Truth, the single trait in their character, makes them vulnerable to rapacious traders and keeps them bound to the latter for generations. It will be worthwhile to spend a bit exploiting and experimenting on the tribal trait of truth and honesty to win their royality to the co-operative set up for the larger interest of developing an entire economy.

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SUGAR-CANE RESEARCH STATION TO COME UP IN ORISSA

Orissa's Minister for Agriculture and Co-operation Mr. Basudev Mohapatra during his recent tour to New Delhi met the Union Minister for Agriculture Mr. Rao Birendra Sigh, on December, 8 and discussed with him various agricultural problems of the State. On his return to the State Capital on December, 10, Shri Mohapatra has said that Sugar-cane Research Station would soon be set up in Orissa by the Central Government for improvement of sugar-cane productivity in the State as decided by Government of India.

He has further said that the Central Government would depute a study team to visit the drought prone areas of Orissa and submit a report on continuance of Drought Prone Area Projects (DPAP) in existing 25 blocks of Kalahandi and Pbulbani districts and expansion of the same to another 14 blocks of Sambalpur and Balangir districts.

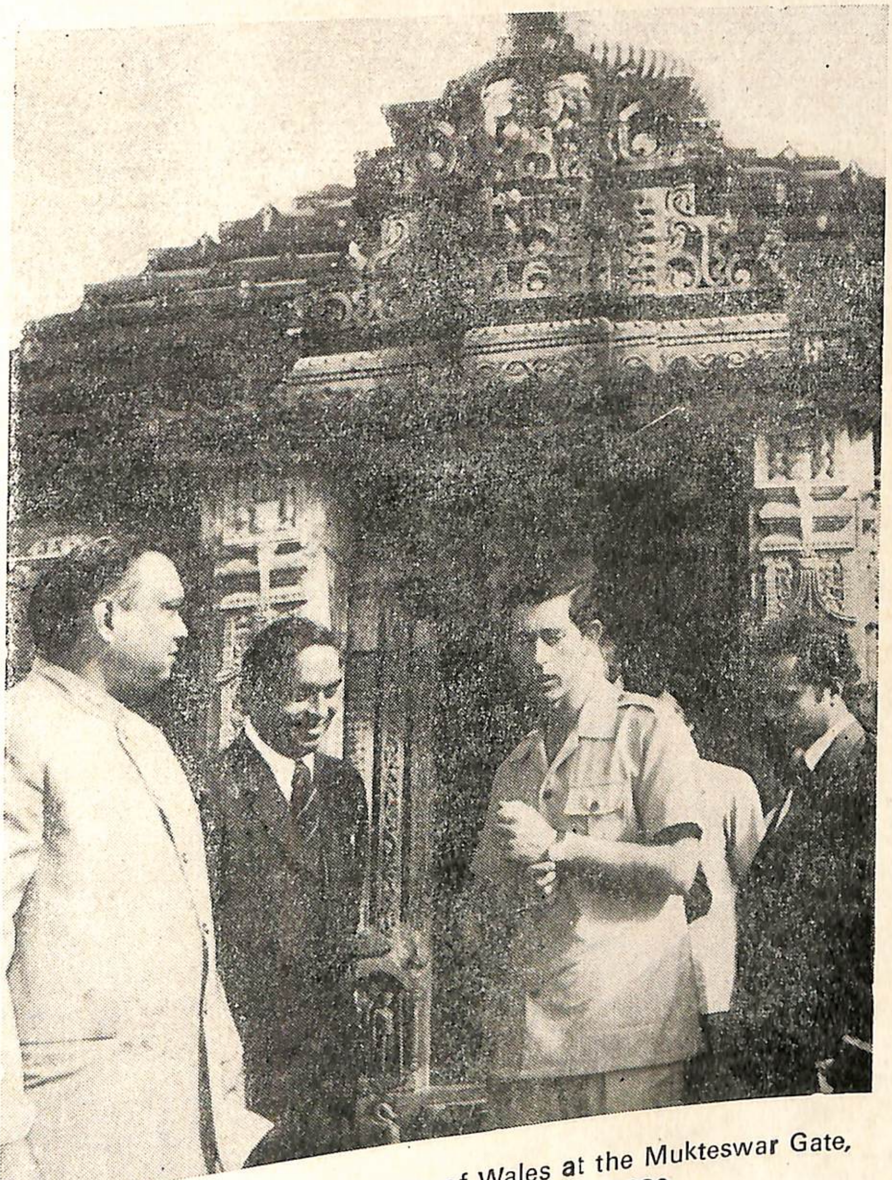
Mr. Mohapatra pleaded before the Union Minister for the location of a second Agriculture College, a Jute Twine Factory and for enhancement of input susidy from Rs. 250 to Rs. 350 per hectare for the small, marginal and tribal farmers of drought affected areas of the State.

He also met Mr. R. V. Swaminathan, the Union Minister of State for Agriculture and urged for the sanction of 20 lakhs margin money for Danpur Jute Marketing Co-operative Society, supply of adequate quantity of cement for construction of IDA assisted godown projects and for the establishment of six Krishi Vigyan Kendras in the State.

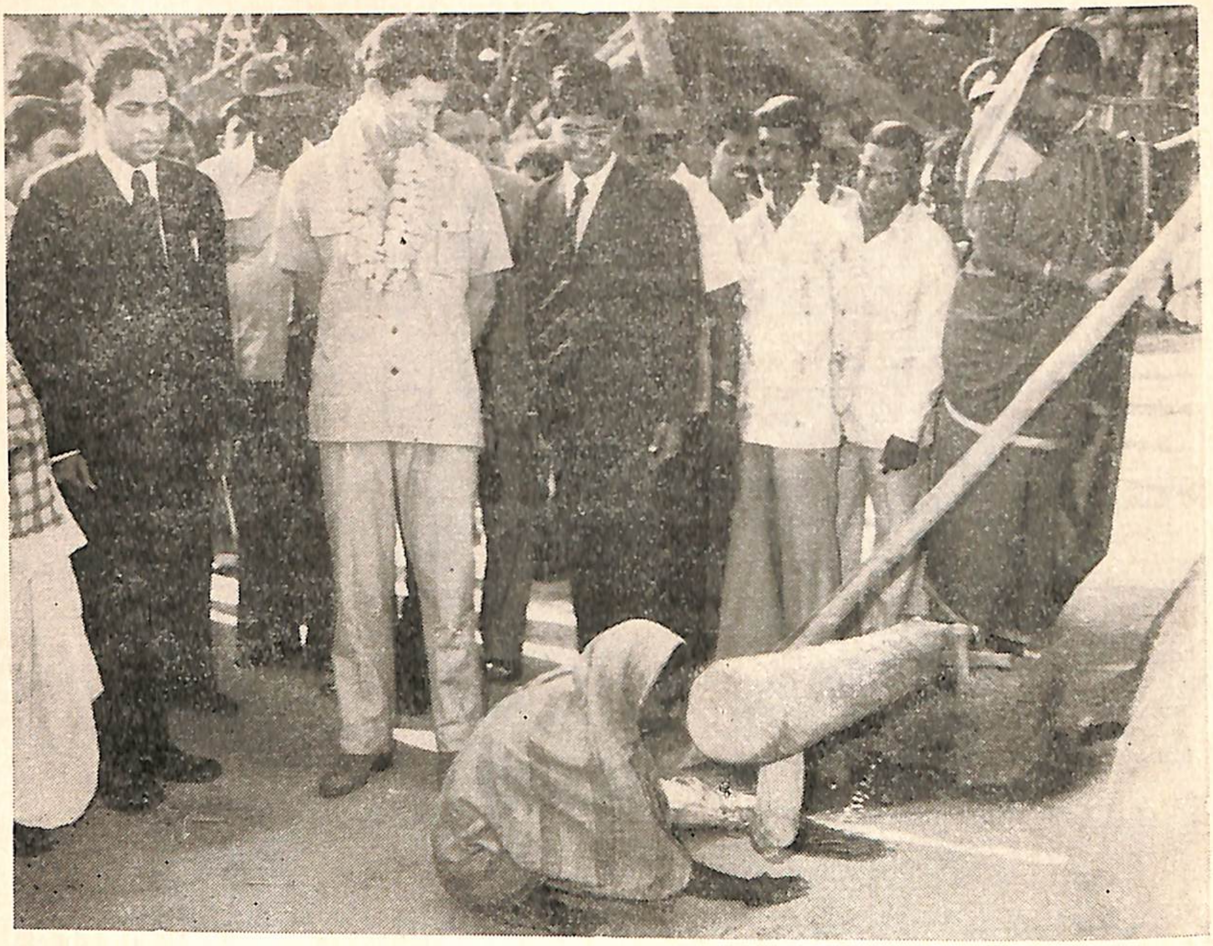
The Union Minister has assured Mr. Mohapatra to consider these out standing claims of the State favourably.

PRINCE CHARLES'S VISIT TO ORISSA

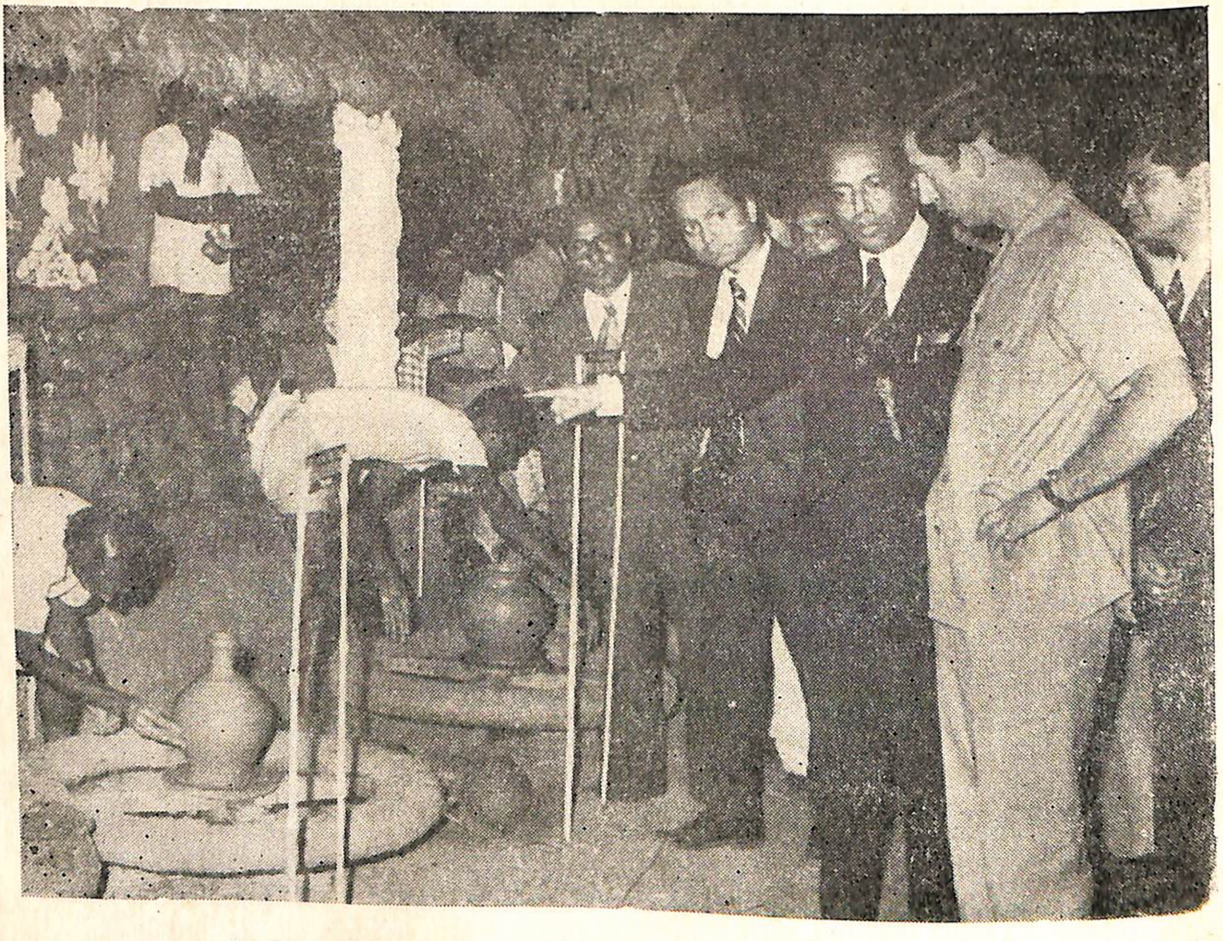
It was December 4, 1980, which marks the privilege of the State Head in extending a warm welcome to the Crown Prince of United Kingdom, His Royal Highness. Prince Charles on his one day visit to Orissa. The visit of his Royal Highness, Prince Charles to different spots right from cottages to monuments as recorded by the camera is reproduced below.



His Royal Highness the Prince of Wales at the Mukteswar Gate, Bhubaneswar on December 4, 1980.



A Harijan Woman of Haripur Village Threshing Paddy while the Prince of Wales looks on (December 4, 1980).



At Rench Sasan the Prince of Wales seen Potters at work

Housing in the Metropolis of Orissa.

SHRI NIRANJAN PANDA

Six out of every ten families of Cuttack the premier city of Orissa, live in the houses without legal ownership. A low-income family faces the prospect of a precarious future in this city and payments for this same room may be a mere waste of good money for the same family. Housing entails only one of many spendings and investments that they need to make and to vary in relation to one another according to the ups and downs' in this urban career. The prospects of income earners (from lodgers, a shop or a workshop) in other way, open up and they borrow money for branching into other enterprises.

The proportion households living in different sizes of houses in this city points to a relatively high degree of congestion The heavy preponderence of households living in one-roomed houses (42 per cent) is higher by 2 points compared to the State average. This one-roomed house could possibly be a hovel in a slum or a decrepit structure of any description. Again proportion of households living in two-roomed houses falls very much below the State average of 32 per cent. The degree of congestion (nearly 3 persons) also seems to have made inroads into the households those living in three rooms. In the city slight higher proportions of four-roomed and five-roomed and above houses could be taken as an index of the marginal prosperity. But the major portion of the population of Cuttack city appears to be housed under conditions of considerable congestion and lack of privacy.

The impact of population growth manifests itself most bluntly in the field of city planning and housing. This rapid increase of population is resulting from the high birth rates, longer life-expectancy and migration of country-people. The city has been growing at a fairly fast rate over the past decades. In terms of percentage decade variation, it was the highest at 42·73 per cent in the decade 1951—61 and it again achieved 32·64 per cent during the last decade 1961—71. Public policies and regulation in housing, therefore, add up to a tangled web of more or less grandiose schemes of urban planning, administrative standards and legal restraints, which all too often clash violently with economic and financial relations.

Cuttack has been functionally classified as commercial-cum-service town due to trade and commerce and services as the predominant occupation of their people. Out of total population of the city 36·5 per cent of the workers are engaged in services, 26·0 per cent in trade and commerce and 21·0 per cent in industrial activities. Being the most important trading centre of the State and a large number of Central Government and State Government offices having located, it attracts a considerable volume of migrants so much so that housing has assumed the proportions of a serious problem. These new-comers usually have only two housing options open to them—to rent rooms in the cheapest part of the city or to settle on any urban land for which they can avoid making immediate payment and start developing there whatever house property they can afford. This is the reason why such increase in poor quality materials like grass, leaves, reeds or bamboo find favour consideration of walls and roofs in the city. It may therefore, be found that a number of clusters of improvised hutments fast coming up to accommodate the wage-earning labourers, rickshaw-pullers, petty hawkers and others those migrate to this urban slum area. Those slum-dwellers choose to settle whatever foothold they can gain for themselves and their children in the urban economy and society.

In this low-income areas in the city well over half of the adult residents are born in the country-side and come to the city not to permanently settle but to earn and send home money for a relatively short time during or after which they can return home better off. Jobs and incomes are primarily a means of gaining foothold as permanent settlers in this city itself. On the strength of these characteristics, it was to be expected that city of Cuttack should have had a smaller proportion of owned houses on the lines of the urban areas of Sundargarh and Puri districts. The ancient heritage of the city where even small and middle class people were not able to provide themselves with houses till the recently, when cost of land and building materials became so prohibitive as to be outside their reach. The proportions of residential houses, workshop-cum-residences, places of entertainment and community gathering and vacant houses are therefore, relatively low. This is definitely indicative of the paucity of houses compared to the population of the city.

Two big rivers Mahanadi and Kathjodi on each side of Cuttack have given a restrictive effect on its natural expansion. So many 'bastis' or 'sahis' have, therefore, grown in the core of the city from the age old. In such areas ownership is usually legal, but the dwellings themselves are often overcrowded and insanitary and sometimes structurally unsafe. The environmental housing conditions are so poor in these areas that the houses are void of proper ventilation, excretory system, electricity, water-supply or even if a well at least. No drainage system is available either on its back or front, and if there is one it is preoccupied with rubbish waste materials or some occupants daily use it as their excretory passage. Most of the times a year the drainages are over flowed with dirt water and the houses are water-logged for days together, living conditions at this stage are noxious. The waters of the swamp become more and more heavily polluted due to over-powering of small rotting excreta and sometimes drinking water hence has to be carried over long distances. The breedings of mosquitoes and flies become enormously intense causing illness and infections of all kinds. Cuttack as generally talk goes, is called as "a city of mosquitoes and flies".

In these 'sahis' or 'bastis' day light, ventilation and sanitary conditions are extremely poor and many households occupy only one or two rooms. People in these area have already allowed or even encouraged to finance and organise low-cost and self-help housing in accordance with their needs and their means, outside the framework of public regulations—and also have engulfed the city during and even before its development—and have been too numerous and too poor to be accommodated in the city destroying the assumptions, predictions and pre-conceptions of its planners. The type of houses in these areas with wall as well as roof made of purely temporary materials mostly can be considered to be the worst. Hence, some radical development programme of the inner city must be aimed at in accordance with the Bombay's programme.

In Bombay, approximately half of the cost of the Corporations's Repairs and Reconstruction Programme for inner city tenaments has been met by compulsory surcharges on the taxes paid by all owners of house-property in the city, while the other half of the programmes cost has been met from other city and State revenues. The rehabilitation of slum properties in this programme so also compulsory, and is carried out under Corporation's direction. The owner of an improved property is not allowed, under the prevailing rent-control regulations, to increase the rents payable by his tenants. Though there is stiff opposition from Bombay's property owners 20,000 dwellings each year were being repaired and rebuilt after 1970 at an average cost. The Corporation's aim is to repair those inner--city slum properties in imminent danger of collapse and to improve sanitary standards in this part of the city's housing stock. Cuttack having no space left either of its south or north side, its house properties might be dealt with like Bombay programme mostly of four or five storeys and side by side large-scale relocation of residents elsewhere might also be avoided. Moreover, some houses in most part of the city have been developed illegally and in turn, investing time, money and effort in larger and better houses may be eventual fodder for a bulldozer. The vicious circle of illegality insecurity and under-investment clearly has to be broken. But what kinds of public sector support are needed in order for people to bring the housing resources into play ?

Private investment can go a long way in tackling the problem, but relatively lower returns and inhibitive rent control laws, seem to militate against large investments.

The public-sector (Municipality or Government especially) intervention in city's settlement and housing has mainly benefited minority population group—that is urban households with relatively high wages or salaries have been growing slowly in numbers, meanwhile fast-growing low-income groups have been largely excluded from housing benefits and at the best—have been left to their own housing devices. Under the Municipal by-laws. low-income people are not sure that if they will not be undergoing any unnecessary expenditure on getting the plans of their houses passed and they would not be encouraged to accept the proposition of building houses. Static, piecemeal, irregular housing view is therefore, visualised in the city.

Greater Improvement Trust, a public sector housing agency has played vital role in constructions of buildings in the city. Municipal authorities also had started building activities for shops and workshops in piecemeal manner. The gradual and spasmodic undertaking of housing programme by these authorities—often reluctantly, undergrow political and other pressures from both above and below the city management level—rather than in any over and comprehensive changes in public sector aims and policies. They had a great deal to do with the partial, inefficient and ineffective use of whatever resources were available for urban development with particularly baleful effect on housing. They can no longer afford to base their work on the sketchy information and simplistic interpretations of present condition and the faulty predictions of future needs and demands.

There may be great advantages to be gained in the city by allocating plots and/or organising housing and related loan schemes on a collective, co-operative basis and Governmental assistance. These are to be adapted to the settlement and employment needs of low-income as well as middle-income groups.

Site-and-service programmes should be undertaken on an increasing scale in Cuttack City. Cheap housing land and services also most needed by the poorest members of population of the city who cannot afford to pay more costly public housing assistance. This group always tends to mobile to the built-up Central or industrial and commercial area where home-opportunities they can find. Allocating new sites and services to this group.

notice may be taken as they may not suffer much from greatly increased journeys and travel costs by detaching themselves from their jobs. Moreover, site and service programmes may firstly enable the settler households to earn as much of income as possible in the programme area, and secondly may provide them the facilities of water and sewerage system, public and indoor electric connections, roads and traffic, schools and clinics, recreation and market.

It is the needing time for both programme organisers and users to start fresh thinking keeping in view the future demands for city settlement and housing. It would be obviously wise to consider alternative and to do it before it is too late to tackle the housing problem they may tell upon the moral and physical health of lakhs of inhabitants of the metropolies of Orissa.

Census Directorate
Mahanadi Road, Tulsipur
Cuttack-8

STATE CIVIL SUPPLY CORPORATION TO TAKE OVER SUGAR AND WHEAT DISTRIBUTION

The newly formed Civil Supply Corporation of Orissa will take over distribution of levy sugar and wheat through the public distribution system from the current month and cover the entire State in the next month. This has been decided in a high level meeting held here recently under the chairmanship of Shri J. B. Patnaik, Chief Minister.

The meeting was convened for reviewing the performance of Corporation. It has been revealed that the corporation has so far procured 4,300 tonnes of foodgrains as against its target of 50 thousand tonnes. The Chief Minister urged upon the corporation to build up buffer stock of rice for release when necessary. The corporation has also been asked to procure and distribute wheat, sugar, khandsari and edible oil. Besides, procurement and crushing of oil seeds will be taken up by the corporation for which 3/4 new crushing units are to be set up during a period of six months.

With a view to arresting price rise in essential commodities the corporation would utilise the next work of consumer co-operatives extending up the block and panchayat levels for retail sale of the commodities.

For accelerating effective implementation of retail distribution through the co-operative channel a working group consisting of officials of the Department of Food and Civil Supplies, Department of Co-operation and the corporation was constituted to work out a plan with financial implications and staff required.

Shri Upendra Dixit, Minister, Food and Civil Supplies, Shri S. M. Patnaik, Chief Secretary, Shri C. Venkataramani, Commissioner-*cum*-Secretary, Food and Civil Supplies Department, Shri H. N. Das Mohapatra, Chairman, Civil Supply Corporation and Managing Director of Corporation were present in the discussion.

POTATO :

A very wholesome Food item

Dr. GOPAL CHANDRA PATTANAYAK

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Potato has been known in Peru and Andean high lands in South America since 2000 B. C. Spainyards brought it to Europe in 1970 and the Portuguese introduced it into India in the 17th century. Known all over India by various names e.g. Alu, Gol Alu, Bilati Alu, Alu Gaddalu its botanical name is Solanum tuberosum Potato is not only a tasty vegetable but also a valuable food from the point of view of nutrition as seen in the following table:

100 grammes of potato contain

Water	74·7 grammes
Protein	1·6 gm.
Fibre	0·4 gm.
Carbohydrate (Starch)	22·6 gm.
Minerals total	0·6 gm.
Calcium	10·0 miligrams
Phosphorus	40·0 mgm.
Iron	0·7 mgm.
Vitamins: B Complex	
Thiamine	0·10 mgm.
Riboflavin	0·01 mgm.
Niacin	1·20 mgm.
Vitamins C	17 mgm.
Vitamins A Carotene	14 Migrogramms
Work energy	97 Kilo Calories

For us in India unless faced with famine conditions, wheat and rice cannot be replaced by potato as a stapple food althouh it is so used in some countries like Ireland. Because of its high water content (74.6 p.c.) work energy yield by 100 gms of potato is only 97 Kilo calories against 346 and 345 Kilo calories yielded by the same amount respectively of wheat and rice because of their lower water content. As recommended by the National Institute of Nutrition. Hyderabad an average adult male on moderate work should take daily 475 gms of cereals say rice in addition to other food items. This yields 1638 Kilo calories of work energy. If one has to replace rice by potato. one has to take 1688 gms of potato in place of 476 gms of rice. (100 gms of rice and 100 gms of potato respectively yield 345 and 97 Kilo calories). In practice 1688 gms of potato will be considered too bulky an amount to be easily and conveniently managed. Half a kilo of potato (500 gms) can however taken without any difficulty. This can be distributed in the three principal meals of the day. Even this amount is of significant nutritive value as it yields 485 kilo calories, 8 gms of proteins, 86 gms of Vitamin C and small amounts of Vitamin B Complex and minerals like Calcium, Phosphorus and Iron.

In order to take full advantage of these small amounts of available proteins, minerals and vitamins certain traditional methods of processing and cooking have to be avoided. Usually Potato skin is peeled off by the sharp edge of a cutting instrument, then sliced, washed and boiled or steamed. By this these valuable nutrients are wasted. Raw potatoes should first be boiled or steamed, skin can then be easily peeled off with the help of fingers leaving the nutrients intact in the potato Boiled peeled potato can be eaten as it is with salt, spice, oil or fat as desired. Sometimes raw potato is roasted in naked fire and after peeling off the skin. eaten with relish as it has a special taste. Further boiled peeled potato is sliced to the required trickness and fried. The sliced potato should be put deep into hot boiled oil or fat and immediately removed to be directly served. This has its own special taste and Oxidation of Vitamin C is thus prevented.

Storage and preservation pose a perpetual/problem to the producer, middle men, and the consumer. Time honoured method of storage consists of prolonged exposure to sun after harvesting and spreading on the room floor or on plain platforms. Cold storage is the best modern method which is however not easily available even urban areas, not to speak of villages. The household method of preservation consists of cutting potato into slices and drying them by exposure to the sun and finally putting dried slices intopots or bottles with mouths sealed. But by this Vitamin C is completely lost.

Apart from the practice of one vegetable for one curry, potato enters into the essential composition of most of the curries of mixed vegetables. Potato often forms an essential part of meat, fish and egg curries. In the cullinary practice. potato appears ubiquitous. Fish and chips, egg and chips and chips alone have their devoutee who enjoy them as tasty snacks. On the whole potato forms a very popular food item wholesome and tasty at the same time.

UNEMPLOYED YOUNG MEN TO BE DEALT WITH SYMPATHY AND FAIRNESS

Shri Jugal Kishore Patnaik, Minister of State, Labour and Employment has called upon the Employment Officers to deal with the young unemployed mass with fairness and sympathy.

Inaugurating the two-day conference of District Employment Officers at Bhubaneswar on November 3, Shri Patnaik said that the role of Employment Officers has assumed considerable importance in the context of increasing unemployment problem. Shri Pattnaik called upon the Employment Officers to be conversant with new ambitious Industrial Programme by the Government which is under implementation so that officers engaged in vocational guidance may suitably publicise the schemes for benefit of the educated unemployed. They may also keep themselves informed about job opportunities in Government of India and quasi-Government institutions so that they can advise the job seekers suitably, he added. The minister wished that the conference of Employment Officers will reach useful conclusions and help evolving guidelines to solve current problems facing the organisation.

Among others, Secretary, Labour and Employment, Shri P. C. Misra and Director of Employment, Shri F. C. Panigrahi were also present in the conference.

DISASTER PREPAREDNESS FOR CYCLONES

SHRI GANESH DUTTA

The unprecedented flood has come and gone, **leaving a toll of 73 human lives,** thousands of cattle and destroying public and private property worth of more than hundred crores. Mankind, as usual, had to accept defeat against fury of nature. Nevertheless, the fighting spirit in man must **continue for self-preservation** which is the greatest instinct in man.

The months of October-November are the months **of Tropical cyclones. Tropical cyclones, hurricanes and typhoons are regional names for what is essentially one and the same** phenomenon. Depressions in the tropics which develop into storms are called tropical cyclones in the South-West Indian Ocean, in the Bay of Bengal and Arabian Sea; these storms are called typhoons in the North-West Pacific and are known as hurricanes in the Carribbean. in the **South-East of the United States** of America and in Central America. The tropical cyclone is the most devastating **of all natural phenomena. Probably the** worst tropical cyclone ever experienced struck Bangladesh in November 1970 and resulted in more than 2.00,000 deaths. A question obviously arises as to whether mankind must passively accept nature's fury or can take planned measures to reduce the losses of lives and the damage which are inseparable from tropical cyclones, if not to prevent. It can be asserted that by disaster preparedness and prevention, a tropical cyclone cause much less loss of life and much less damage to property than if no precautions had been taken. The need is of outstanding importance because some of the most populated areas are affected by tropical cyclones and the potentials for human disaster is enormous, from economic aspect, the damage caused may amount to significant percentage of the gross national product. In a developing country like India, more especially in this State, the damage may be on such a scale as to cancel out much of the progress made in improving the standard of living of the people.

The term "Cyclone" derived from a Greek word meaning 'coil of a snake' was first used by Captain Henry Piddington about the middle of the last century for denoting developing storms **occurring in the Bay of Bengal and the Arabian Sea.** Tropical cyclones are low-pressure systems, or depression: **around which the** air circulates in an anti-clockwise direction in the northern hemisphere, but in a clockwise direction in the southern hemisphere. When fully developed **a cyclone** become a vast whirl wind **of extraordinary** violence, 150 to 800 Kms. across, 10 to 17 Km. high, spiralling around a centre and progressing along the surface of the sea at 300 to 500 Km. a day. The speed of wind in the mature storm within 50 to 100 Km. of its centre can be 160 Km. per hour or more. **This is accompanied by heavy** rainfalls, heavy sea and swelling tides. Storm tide and floods account for the major portion of deaths. The maximum tide height estimated in the coastal area is about 3 to 5 meters and tidal wave enter the land to a distance of about 20 Kms. if the land is flat. Heavy rains of the order of 30 to 50 cm. (12 to 20 inches) in 24 hours are common in association with cyclone.

The evolution of an average cyclone can be broadly divided into four phases, namely (a) formative, (b) developing (c) mature and (d) dissipating phases. In the formative phase prevailing wind over an extensive oceanic region become variable and scattered showers of rain occur accompanied by thunder. Atmospheric pressure in the area gradually falls. Meteorological services describe the weather as 'unsettled'. During developing phase, the pressure fall continues and winds increase in speed taking up a definite anti-clockwise direction of motion around the centre in northern hemisphere and clockwise in southern hemisphere. Skies become thickly overcast and rainfall becomes heavier. This condition is described as a 'depression' by the Weather Bureau. From this state onward, the area of low pressure and the associated weather begin to move at a rate of 350 to 500 Km. per day. Many of these depressions do not develop any further; some only pass beyond into the mature phase while very few become severe cyclones. The Meteorological Department use the term 'cyclonic storm' when the wind speed exceeds 64 Kms. per hour and 'severe cyclone storm' when the wind speed is in excess of 80 Km. per hour.

During the period 1891—1971, 17 cyclonic storms hit Orissa coast. Some of the most severe cyclones in the recent past which took heavy toll of human life and property are described below.

(1) The severe cyclonic storm which crossed Orissa coast between Puri and Paradeep on 9th October 1967 caused serious devastation in coastal Orissa. The death toll was about 1,000 persons and 50,000 cattle. The damage to property ran into a few crores of rupees.

(2) The severe cyclonic storm which crossed near Paradeep on the 30th October 1971 was accompanied with violent winds of 140—170 Km. per hour. The height of tides was between 2 and 6 meters. The tidal bore went inland for a distance of 15 to 25 Km. causing complete destruction of houses, standing crops, besides human lives and cattle. About 10,000 human lives and 50,000 cattle were lost. The damage to property was estimated at Rs. 300 crores.

Cyclone disaster prevention and preparedness consists of wide range of measures, some long-term and other short-term aimed at saving lives and limiting the amount of damage that might otherwise be caused. Short term measures are designed to cover the action necessary during the approach of a possible disaster, during the existence of a disaster situation and in the ensuing period devoted to relief and rehabilitation.

The warning system is a primary feature of disaster preparedness and has its origin in the short term measures which are designed to minimise loss of life and damage and to facilitate timely and effective rescue, relief and rehabilitation measures. The centre or focal point of the warning system is the Indian Meteorological Service or "Weather" which is responsible for detecting the existence of a tropical cyclone over the neighbouring seas and for a predicting when and where it will strike and for assessing its expected characteristics in terms of wind strength, rainall and storm surge.

Short term cyclone disaster preparedness may be as follows:—

(a) Steps to be taken before the commencement of cyclone season:—

(i) Check houses, secure loose tiles by cementing wherever necessary; repair doors and windows.

(ii) Check the area around the house, remove dead or dying trees.

(iii) Keep a hurricane lantern filled with kerosene, flash light and enough dry cells.

(iv) Promptly demolish condemned buildings.

(v) Those who have radio sets should ensure that the radio is serviceable and in case of transistors, an extra set of batteries should be kept handy.

(b) Steps to be taken when a warning for a cyclone is received:—

(i) Keep your radio on and listen to latest weather warnings. Pass the information to others.

(ii) Avoid misleading rumours. Pass only the official information.

(iii) Get away from lowlying beaches or other locations which may be swept away by high tides or storm waves; leave sufficiently early before your way to high ground gets flooded. Do not delay and run the risk of being marooned.

(iv) Act promptly when asked to evacuate

(v) Board up glass windows or put storm shutters in place.

(vi) Get extra food, especially things which can be eaten without cooking or with very little preparation. Store extra drinking water in covered vessels.

(vii) Check on everything that might below away or be torn loose like kerosene tins, cans, agricultural implements, garden tools, road signs, remove them and store them in a covered room.

(viii) Make provisions for children and adults requiring special diets.

(ix) Remove cattle to safe places as far as possible.

(x) Be calm; your ability to meet emergency will inspire and help others.

(xi) Head for the proper shelter or evacuation points indicated for your area when authorities advise for evacuation.

(xii) Do not worry about your left over property but save yourself. At shelter, follow instructions of personnel in charge. Remain in shelter until informed that you may leave.

(c) Post-cyclone measures:

(i) Get yourself innoculated against disease and seek medical care for those injured or those fallen ill.

(ii) Any loose and damaging wire from the electric lamp post should be strictly avoided.

(iii) Anti-social elements should be prevented from doing mischief and reported to the Police.

(iv) Cars, buses, lorries and carts should be driven carefully.

(v) The houses and dwellings should be cleared of debris

(vi) The losses should be reported to the appropriate authorities. It should be remembered that exaggeration of losses is anti-social.

(d) Action regarding rescue and relief of affected population.

(i) The Collector arranges for reconnaisance and rescue of persons out at sea and marooned in lowlying areas, if any, through Naval andAir Force personnel.

(ii) It is necessary that the roads are cleared of fallen trees for restoration of traffic. Assistance of villagers should be sought and as an encouragement, they should be allowed to take away the fallen trees and branches.

(iii) The electricity, telegraph and telephone communication should be restored promptly.

(iv) Social service volunteers should be associated with the rescue works.

(v) Food and water should be rushed to the affected people and suitable camps should be organised for housing people whose houses have been destroyed by cyclone.

(iv) Food, clothing, shelter, cattle feed, etc., should be organised by officials most expeditiously.

(vii) A meeting of the Natural Calamity Committee or Cyclone Committee should be called as soon as conditions return to normalcy after the cyclone. In this meeting, emergency actions taken during the cyclone are reviewed particularly to find out the adequacy or otherwise of the arrangements that were made to meet the situation. Report on the losses and damage in the proper form should be sent to appropriate authorities.

(viii) Emergent relief in shape of dry rations, like chuda, atta, rice, salt, kerosene, match box should be given to the rich and poor irrespective of the economic condition of the affected people till they resettle themselves with normal life. Prompt action should be taken to sanction house building grant to repair the houses.

(ix) Loans for purchase of bullocks, seeds, construction of house to grow betel vines, resettlement of artisan class and fishermen should be given to recoup their normal status.

(x) The labour class people should be given some work by means of which they will survive. For this, test relief work and other labour intensive work should be started to open avenues for employment.

It should, however, be realised that it would be grossly inadequate merely to plan and implement relief actions to be applied after disasters have occurred. The actual and potential consequences of cyclone disasters are so serious that much greater imphasis should be given to planning and prevention. Disaster prevention measures are complex because of their wide scope and their technical content. Except where social consideration are of overridding priorty, decisions on disaster prevention should be based on cost-benefit and associated criteria. Policies for disaster prevention should be closely allied to economic, social and environmental policies so that the cost benefit-elements of disaster prevention can be clearly incorporated into the national planning progress, Long-term disaster preparedness required considerable capital and human resources. In the developing countries where such resources are still scarce, great weight should be given to those policies and measures which will be less costly and beneficial to more people. Disaster awareness at all levels of Government is essential as also education and training for effective long-term benefits of disaster prevention.

After the cyclones of 1971 in the State, a committee under the Chairmanship of Dr. P. Koteswaram was appointed to examine various measures to mitigate human sufferings and to reduce the loss of life and property in the event of future disasters. The committee made as many as 59 recommendations. Most of the recommendations have been implemented and the rest are in the process. Some of the important recommendations are as follows:—

Improvement of warning system and dissemination, afforestation, storm shelters, wind breaks, building codes, coastal bunds.

The recommendations of the Cyclone Distress Mitigation Committee, if implemented fully will go a long way for disaster prevention, both for short-term and long-term measures. But there are areas where further improvements after careful examination can be made. They are as follows:—

(1) Creation of a Task Force or Emergency Relief Force for rescue operation in disasters.

(2) Legislation for disaster preparedness both longterm and short-term.

(3) Risk evaluation.

(4) Land use and zoning.

The need of a Task force or Emergency Relief Force is greately felt in view of catastrophic tornado in Keonjhar and Cuttack district in 1978 and flood hollocust in Gunupur, Gudari and Kasinagar areas this year due to high flood in the Bansadhara river. A trained police force could have been more useful in rescue and relief operation in these areas. The cost-benefit ratio should be borne in mind while implementing this scheme so that this will not be an example of extravagance.

In every country the long-term plans and day-to-day activities of Government are guided by some recognised existing legislation decree, regulations or other measures giving authority and responsibillity to departments of Government or to designated boards or establishment or to individuals. Disaster prvention legislation will be of two types : legislation for long-term construction and reconstruction and for prevention purpose; and legislation for preparedness for emergency and short-term recovery purposes. The long-term legislation includes physical planning, urban planning and building planning, restoration of public services, needs of the private sector, utilisation of credit and gifts etc. The short-term disaster relief legislation will deal with immediate relief and rescue operation.

We have a relief code which more or less deals with immediate relief in disasters and is not statutory. It should be examined whether the relief code will be enough or a more comprehensive legislation for disaster preparedness is necessary.

Risk evaluation is an assessment of vulnaribility to disaster, the description and assessment of hazards. The importance of risk evaluation has been recognised by the World Meteorological Organisation and the United Nations Environment Programme. In countries such as Australia. Japan and the U. S. A. such studies play a part in the review and further development of the national disaster preparedness. The evaluation of risk can generally be done in a fairly straight forward way. using long-term meteorological and hydrological records, supplemented by data available from neighbouring states.

Land use and zoning measures include legal measures for the enforcement of zoning and controlling type of activity, alternation of existing land use, compulsory acquisition of land, flood plan management, land development policies, etc.

It is necessary here to mention something about tornadoes, as the tornado in in Purunabandhagoda and other adjoining villages of Keonjhar and Cuttack district had human toll of 200 and still recent in memory (May 1978). March to May is the tornado season. All tornados are associated with parent storm clouds. Tornadoes may occur any hour of the day or night, but usually form during the hottest part of the day. Actually 80 per cent of the tornadoes occur between 4 P.M. to 6 P. M. A tornado can be considered as an instant storm of violent energy. In India one of the earliest tornadoes as recorded was in 1872 which swept across Satkhira of 24-Praganas. The tornado of April 1963 killed 140 people in Cooch Behar. The U. S. A. is the most affected by tornados. On an average 600 tornadoes occur every year in U. S. A.

The most violent of all storms, a tornado is a vortex or very rapidly spinning air seen as a funnel shaped cloud that conceals winds of very high speeds ranging from 400/500 K. M. per hour. The winds usually rotate in an anti-clockwise direction. Tornado formation is the result of forces set up by the imbalance resulting in rapid upward connections from the lower layers of warm air which induces a rotary flow and forms the tornado vortex.

The paths of the tornado do not usually exceed 30 K. M. barring some exceptional cases where they may be as long as

200 K.M. The life time of a tornado is usually short, 2-3 minutes only.

As soon as a tornado is seen in the distance (the funnel shaped structure is the criterion), one should move fast at right angles to the line of approach; and if caught in the open country, one should lie flat on the ground in a ditch or depression. If caught unawares in the house, one should move into a strong room and lie under beds.

Under-Secretary,
Revenue Department,
Bhubaneswar.

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ORISSA GOVERNMENT TO CONSTRUCT 30,000 HOUSES IN FLOOD HIT AREAS

The Orissa Government have decided to construct 30,000 houses in flood affected blocks at an estimated cost of Rs. 10·50 crores.

The decision was taken at a meeting held at the Secretariat on December 17, 1980, under the chairmanship of the Chief Minister, Shri Janaki Ballav Patnaik. It was also decided to encourage voluntary organisations and industrial houses to construct houses in the affected areas. The bulk of the beneficiaries will be from scheduled castes and scheduled tribes. Since Gunupur and Kasinagar are worst affected, the construction of houses in these two places will be taken up by the voluntary organisations and industrial houses, besides the Orissa State Housing Board. Local Committees will be formed to supervise the work. For quick implementation of the scheme National Building Organisation will be requested to train about 100 persons to be selected by Housing Board from amongst the villagers. They will be deployed in different affected areas to supervise construction of houses. To assist the Housing Board the Rural Housing Cell will be transferred to its control.

It was further decided that in urban, semi-urban and growth centres houses will be constructed by Housing Board, the Improvement Trust, Special Planning Authorities. The Housing Co-operative Societies will also advance loans to individuals for construction of such houses. To facilitate such construction, it was decided that land should be handed over to different housing agencies as required and they will be asked to pay the premium in 20 annual instalments after a moratorium of 3 years.

The housing agencies will also be entrusted with the task of construction of houses required for Government employees. It was decided that efforts will be made to construct about 30,000 houses through housing agencies and 24,000 houses through Housing Co-operative Societies during the 6th Plan Period. These agencies will be suitably strengthened to take up this task.

Among those who attended the meeting were the Minister of State for Housing and Urban Development, Shri Basanta Kumar Biswal, Additional Chief Secretary, Shri B. K. Mishra, Member, Board of Revenue, Shri K. S. Chandrasekharan, Secretary, Revenue, Shri P. K. Patnaik, Secretary, Finance, Shri S. Kanungo, Secretary, Housing and Urban Development, Shri S. N. Mishra and the Chairman, Orissa State Housing Board, Shri U. N. Sahu.

Gandhi-Nehru Reconsidered

Dr. BHABAGRAHI MISRA

Primarily Nehru viewed Gandhi as the embodiment of religious consciousness, while himself remained a skeptic in religious matters. Gandhi came from a traditional Indian background and had a strong sense of the Divine presence, right from his early childhood. Gandhi's outlook on life and society was basically spiritual. Practical action in which he was engaged in was to further the spiritual battle of truth against all its adversaries. Nehru came from an ultra-modern, progressive Indian family. Educated in best English schools, he inherited from his father an unfailing admiration for British culture. Nehru's contact with the scientific literature of the time had developed in him an agnostic attitude. He was obsessed more with the problems and activities related to the political situation of the time and had absolutely no time for other-worldly pursuits. As a great democrat Nehru respected Gandhi's vision, but could not depend on the notions of ascetic solutions of the problems nor did he guide himself with the mysterious "inner voice". So Nehru could replace Gandhi's faith in providence with that of his faith in progress and socialism as a designed path for human goodness and betterment of mankind.

Nehru was convinced that Gandhi was the symbol and voice of peasant India. The Mahatma was a necessary product of the past constantly struggling to relate his ideas of the "providence" with this worldly issues in the contemporaneous world. Gandhi's peasant-simplicity like 'ideal' had very little appeal for Nehru. Nehru planned for and encouraged industrialisation and urban amenities in the rural districts, implicitly disagreeing with Gandhi's "self contained village communities". He was also critical of the application of "Satyagraha" and "ahimsa" in village India. As he said :

> "my view is that the question before us is not one of truth versus untruth or non-violence versus violence. One assumes as one must that true co-operation and peaceful methods must be aimed at and a society which encourages these must be our objective. The whole question is how to achieve this society and what its content should be. I do not understand why a village should necessarily embody truth and non-violence. A village, normally speaking, is backward intellectually and culturally and no progress can be made from a backward environment. Narrow-minded people are much more likely to be untruthful and violent...... it seems to me inevitable that modern means of transport as well as many other modern developments must continue and be

> developed. There is no way out of it except to have them. If that is so, inevitably a measure of heavy industry exists. How far will that fit in with a purely village society ?.........If two types of economy exist in the country there should be either conflict between the two or one will overwhelm the other"

Gandhi was aware of the extreme poverty in India, but this awarness, as far as Nehru was concerned, did not contain a planner's vision. The Mahatma had a different interpretation of poverty. Sometimes he confessed that poverty' preserves one from the indulgence of materialism and its consequences. But Nehru could not agree with Gandhi's view. To Nehru any form of poverty was anathema. Contrary to Gandhi, he believed that personal change could come about only when the social economic environment is changed. Gandhi's view regarding "Varnashrama Dharma" was not acceptable to Nehru. Instead he believed that the "caste" as a nation was basically evil. Even though Nehru was a descendant of a Kasmir-Brahman family. he felt that the Varnashrama Dharma was a monstrous barrier in the progress of modern India, on the path towards a socialistic State. Influenced by Marxian pre-suppositions, Nehru believed that Indian society had to be completely modernised in order to solve the nation's problems. In this respect Gandhi symbolised the wisdom of ancient India whereas Nehru was an advanced and scientific socialist. Although Nehru actively and vigorously supported the programme of satyagraha, he voiced his personal reservations about the principles of Satyagraha. He said :

> "For myself I delight in warfare. It makes me feel that I am alive. Events of the last four months in India have gladdened my heart and have made me prouder of Indian men, women and even children that I have ever been, but I realize that most people are not war-like and like peace and so I try heard to suppress myself and take a peaceful view."

Nehru very often expressed his conviction that violence in the service of political and social objectives tends only to reproduce itself. To Nehru the notion of "ahimsa" had a limited role. He could not accept Gandhi's insistence that non-violence is the inviolable nature of human life.

Nehru at times seemed dissatisfied with Gandhi's goals regarding the Nationalist movement. He felt that the term "Swaraj" was not well-defined and was ambiguous. Political analysts of the time thought that Gandhi would have accepted Dominion States for India within the Common Wealth, and wished the British to remain as partners in the process of social and economic development of India. On the other hand Nehru could not visualise any other status other than complete independence for India. Nehru with his precise and defined objectives for India thought Gandhi to be a little philosophical and perhaps too compromising. But it is evident that in intimacy and in sharing ideas, the relationship between the Mahatmaji and Chachaji was extremely extraordinary.

> Nehru records his feelings thus "And then Gandhi came. He was like a powerful current of fresh air that made us stretch ourselves and take deep breaths, like a deam of light that pierced the darkness and removed the scales from our eyes, like a whilwind that upset many things but most of all the working of people's minds. He did not descend from the top; he seemed to emerge from the millions of India, speaking their language and incessantly drawing attention to them and their appalling condition."

Nehru appreciated the Mahatma's great frankness in all matters when speaking or writing to him. In this respect Nehru was modest and truthful enough to acknowledge a force greater than his own. Whenever he was in doubt, Nehru used to seek Gandhi's advice. In Nehru's own language, Gandhi :

> "is an extraordinary paradox. When he enters a room he brings a breath of fresh air with him which brightens the atmosphere... Gandhi is full of power and authority, and often imperious enough in issuing commands that had to be obeyed......Having found inner peace he radiated it to others."

Gandhi was a man radically different from Nehru and yet his closest associate. Gandhi once said of Nehru. :

> "The difference between far and me appear to be so vast and so radical that there seems to be no meeting ground between us."

But in intellectual sphere their comradeship and personal intimacy was beyond this-worldly aspirations. Nehru was convinced that the Mahatma spoke to him from a different world and a man who wielded a mysterious spiritual power. When logic failed, Nehru was willing to follow Gandhi, since he deeply appreciated and intimately understood Gandhi. This understanding alone contributed much to Nehru's personal achievements.

C/5 Unit—3
Kharvela Nagar
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RS. 11 LAKH WORTH ESSENTIAL COMMODITIES UNEARTHED

In a raid conducted by the S. D. O., Bhubaneswar and the Civil Supplies Officer, Puri at Jatni on November 3 essential commodities worth Rs. 11 lakhs have been unearthed from four business premises. The stocks have been seized for offences under Essential Commodities Act.

The commodities seized are, Wheat 230 Qtls., Sugar Candy 28 Qtls., Mustard Seeds 564 Qtls., Peas 419 Bags. Biri 305 bags Muga 162 bags. P. Dal 374 bags, Mung Dal 146 bags, Ground nut 144 bags, Mustard Oil 40 tins, Til seeds 88 bags.

In some cases, the offenders were found in possession of wheat and sugar candy without license while in other cases, there was discrepancy in the physical stock and the stock maintained in the books.

Shri A. K. Mishra, Collector, Puri was present to supervise the seizure and the raid.

Chief Minister, Shri J. B. Patnaik receiving the 4th L. P. record of Shri Venkateswar (Balaji) Pancharatna Mala rendered by Sangeeta Kalanidhi Shrimati M. S. Subbulakshmi from Baba Baikunthanath Brahmachari. The record was released by the later in a function at Bhubaneswar on December 18, 1980.

Chief Minister, Shri J. B. Patnaik, presiding over the All-India Co-operative Week celebrated by the Orissa State Co-operative Union at Bhubaneswar on November 15, 1980.

Photo shows : The Chief Minister delivering his presidential address

LEAST IS THE GREATEST

Er. RAGHUNATH PATRA

"Happy are those who work for peace;
God will call them his Children".
—Mathew 5 (Holy Bible)

The guest did not come. The magnificent, Gold-gilded cart returned from the railway station of Belgium. The queen, daintily decorated with splended garments, waited for the honourable guest. All the servants of the palace including the driver returned and informed "The guest has not come". The face of the queen turned pale to learn this. "He is very punctual. What has happened to him then?" The queen felt worried.

A few hours later, an old man with a suitcase in his hand reached at the gate. The gatekeeper could not recognise him from the dress he wore and thinking him to be an ordinary old man was going to drive him out. But after he knew him to be the honourable guest, got surprised and sent information for the queen. The queen instantly rushed to receive him at the gate. She felt sorry to see him standing at the gate as a common man. The servants could not recognise him because of his creaseless, old dress and outdated suitcase hanging from the right hand. She begged apology for the negligence of the servants and felt extremely sorry for the pain he had taken by coming by foot all through.

The celebrated mathematician of the age whose name published daily in the front page of leading dailies, would come like this, none did believe upon. The queen gave him warm reception.

The way he was going out for an evening shire, was coming back. He counted the electric posts, erected by the street side while going and coming to locate his residence. If any body would put question on the way he felt sorry for the disturbance in counting.

A ten-year old girl was residing in the neighbouring residence. She was reading in a school nearby. Though a home tutor was appointed to look after her study, she did not do well in mathematics. Once the mother flared up and rebuked her recklessly as such she cried, standing on the varandah by the street side. The old man was passing by that way and saw her crying. He was immediately moved. Went to her and asked "What makes you cry, my dear girl! What is wrong with you "

The girl replied, "Sir, I am weak in mathematics. So I don't do well in the class. Though a home tutor has been a appointed to teach me, still I do not improve. My mother scolded me for this."

The clear and candid explanation of the girl, filled the heart of the wise man with pity. He asked her to come with him. The girl followed to the room of the old man, he stayed upon. He offered her some toffees and fruits. Gave her consolation and advised her to come to him daily to learn mathematics.

The girl without the knowledge of her mother and home tutor went on daily to learn mathematics. She shared toffees and fruits offered. She was happy to hear the sweet melody of violin, played by the old man.

Days passed on. Examination was conducted in the class. The girls stood first in mathematics. Teachers got surprised for such improvement. The mother was overwhelmed with joy and admired the tutor for the pain he took in coaching the girl. She arranged good entertainment and expressed her thankfulness to the tutor. But the girl told "All the credit should go to the old man who stays in the neighbouring residence. He teaches me mathematics regularly. He gives me toffee and fruits. I hear sweet music of violin played by the old man. He is very simple, affectionate and teaches me well. His method of teachings are very convincing. I stood first in the class because of him only."

The mother asked, "who is he, dear me?"

The girl replied "I do not remember his name. But an old man, a little tall with acquiline face. The cheeks sunk inside and face furrowed with creases. He is very simple and affectionate".

Mother became anxious to meet him and the girl took her to the residence, he stayed.

She knocked at the door. The moment the door opened she got startled to see the old man standing was no other but Albert Einstein, the father of the doctrine "The theory of relativity." She felt sorry and fell to his feet and prayed "Sir, this naughty girl is my daughter. Regularly she comes and disturbs you. She kills your most precious time. Please forgive me."

Einstein replied smilingly "Please do not mind. The girl is very simple and she is a friend of mine now. I teach her mathematics and she teaches me simplicity."

The lady was much impressed to hear such answer from a noble soul. She got surprised to think—How common is he in look and dress and how uncommon in personality and fame.

During his childhood days he was very fond of gardening, spent most of his time alone in the garden. He was very simple, gentle and timid in behaviour. Seldom mixed with his fiends and classmates. He did not like the then restrictions of the school. He was very fond of music and literature and more attracted by the Greek literature and poems.

Once while in School, he asked his fellow classmate "What do you mean by Algebra ?" The classmate replied "This is very useful for the lazy teachers. If you do not know the exact number in mathematics, put X in lieu of as if you know the number. You will know that number afterwards."

He developed ravenous aptitude for Algebra since then. He spent most of his time only in mathematics, algebra and geometry. Through perseverance he could outwit his classmates. At the age of 15 he went to college to study higher mathematics. And this was the man who became the father of the doctrine "The theory of relativity.", the most leading mathematician and scientist of the world.

He wrote a letter, addressed to the President of U. S. A. "If Scientists desire they can convert Uranium to an energy of new wave which will produce stupendous energy". He felt extremely sorry for the devastation, caused due to explosion of atom-bombs in Hirosima and Nagasaki. He repented for the wrong implementation of Nuclear theory.

His discoveries were mainly for the benefit, welfare of the mankind but not to bring about a catastrophe, delusion killing millions and billions. He repented throughout. He struggled and dedicated his life for the welfare of the humankind and world peace.

Though uncommon in personality, he was exceptionally a common man. He had given up all luxuries of life. He spent his leisure hours playing on violin, boating in lakes. He was loving children who came to him, abudantly, most extravagantly. He had known that the greatest of the world is the least i.e. child. He was exceptionally humble and child like.

Once Jesus was interrogated by one of his disciples "who is the greatest in the Kingdom of Heaven ?".

Jesus called a child, made him stand in front of them and said" I assure you that unless you change and become like children, you will never enter the Kingdom of Heaven. The greatest in the Kingdom of Heaven is the one who humble himself and becomes like this child. And whoever welcomes in my name on such child as this welcomes me" Mathew 18 (New Testament).

"And whoever welcomes me also becomes the one who sent me. For he who is least among you all is the greatest."—Luke (New Testament).

"Let the children come to me and do not stop them, because the Kingdom of Heaven belongs to such as those" (Mark—10—13—16 Luke 18—15—17).

Baseli Sahi,
Patnahat Sahi lane, Puri.

POWER GENERATION PROJECTS TO BE EXPEDITED

The Orissa Government have decided to expedite works in respect of the Power Generation Projects in hand and to initiate new projects so that Power Generation in the State is doubled during the coming five years.

Presiding over a high level meeting on power held at Bhubaneswar on December 18, 1980, the Chief Minister Shri Janaki Ballav Patnaik emphasized upon the need for expediting the works in respect of the power generation projects already taken up and to see to their completion within a time-bound frame so as to ensure supply of power to the series of new industries which would be coming up in a phased manner.

The meeting was attended among others by Shri Niranjan Patnaik, Minister of State for Irrigation & power, Shri K. C. Patel, Minister of State for Industries, Chief Secretary, Secretary, Irrigation & Power, Dr. H. P. Mishra, Chairman, IPICOL, Secretary, Industries, Chairman, O. S. E. B., Managing Director, IPICOL, Chairman & Managing Director, IDC. and Secretary to Chief Minister.

Shri S. C. Ghosh, General Manager, Eastern Region, Indian Oil presenting a cheque for Rs. 1 lakh to the Chief Minister Shri J. B. Patnaik for Chief Minister's Relief Fund on November 13, 1980.

On behalf of the Orissa Finance Service Association, the President Shri K. C. Misra presented a draft for Rs. 501/- to the Finance Minister Shri Raghunath Patnaik for the Chief Minister's Relief Fund on December 6, 1980.

The passing out ceremony of the Orissa Forest Rangers College was held on December 3, 1980. Photo shows the Chief Minister presenting a badge to the best Student.

MASS COMMUNICATION AND RADIO

SHRI BISWARANJAN DAS

Ours is a vast country and number one problem is inaccessebility. Secondly there is the problem of illiteracy which is as high as 70 per cent. This is going to be with us for some years more. Development of surface communication like roads, railways, water ways, etc., is a herculian task and time consuming process. Our adult literacy programme is marching ahead but we cannot wait till people are able to read. Printed words cannot go into villages where 76 per cent of our people live in an environment of abject poverty. Printed words cannot be read and it cannot reach. So till our communication improves and our literacy figures improve, we shall have to use the radio. We shall have to take advantage of our rich spoken word tradition. The spoken words coming from some one in authority, like radio, is of considerable value and leaves deep impression on our people. We shall have to use the radio to bring about a social change, a change in attitudes of thinking of our people so that if not now, may be in the course of another fifty years, we may have less conflicts, than we have now, and more acceptances. Radio is gradually building up proper receptivity by willing public and public has to be enlightened, intelligent and disciplined. These are musts for the welfare of the nation as a whole.

No plan for alround development of the country can be conceived without aiming at in the first instance, bringing the weaker sections to the level of general standard, so that further advancement of the community as a whole can really be achieved. People may be living in poverty but have their own human values and traditions. They are just to be helped to develop the capacity to form judgement and to decide which one is good and what is to be rejected. Here again the radio is used to form public opinion towards certain betterment in standard of social, political and economic thinking.

Then we find that we propagate in a manner we think would be good for the people and not what would be acceptable to them, or what would go down among the people. The message which goes over radio goes to an audience which has strong prejudices, attitudes or predisposition. This needs a long ranges planning to bring about attitudal change to be followed by behavioural change. No media other than radio can take up this responsibility.

In our society the very process of modernisation and the very democratic process release certain tensions and we shall have to live with those tensions. Such tensions and disputes are results of greater awareness among people of certain sections and their tendency to overlook, ignore, suppress or set aside the aspirations of weaker sections. Therefore the administration (in other words those who are working for the welfare of the people) has to be geared up for effectiveness, responsive to the present aspirations of the weaker sections. The cause of dissatisfaction is also the gap between what is desirable and what is feasible. In economic terms, this can be called a gap between the resources and requirements of the community. Radio, as a media of mass communication, is to bridge the gap by promoting an attitude of tolerance and forbearance and enhancing the capacity of the community to tide over.

the crisis. The dissatisfaction which is becoming fashionable with every section of the people and every class of the society can be met by an equally vehement programme to publicise what is being done by the Government. Organised listening in rural area followed by contacts of extension officers can re-enforce the message passed on to the public over radio.

There is another point. Scarcity condition prevailing in certain areas. They are at times exaggerated and panic spreads by oral communication, which is perhaps the main source of mischiefs. Radio can move faster; but radio is not a magic wand that can be waved to banish all distrusts and suspicions. So in any case, the administration and the media have to work in a complementary fashion hand-in-hand. Radio is educating the mass about their responsibilities so that they do not talk only about their rights but be conscious of their responsibilities too. It plays both positive and negative role. The positive role is to disseminate correct information at the correct time and in proper manner and the negative role is to scotch rumours. Radio has to play this role for next 20 years or so.

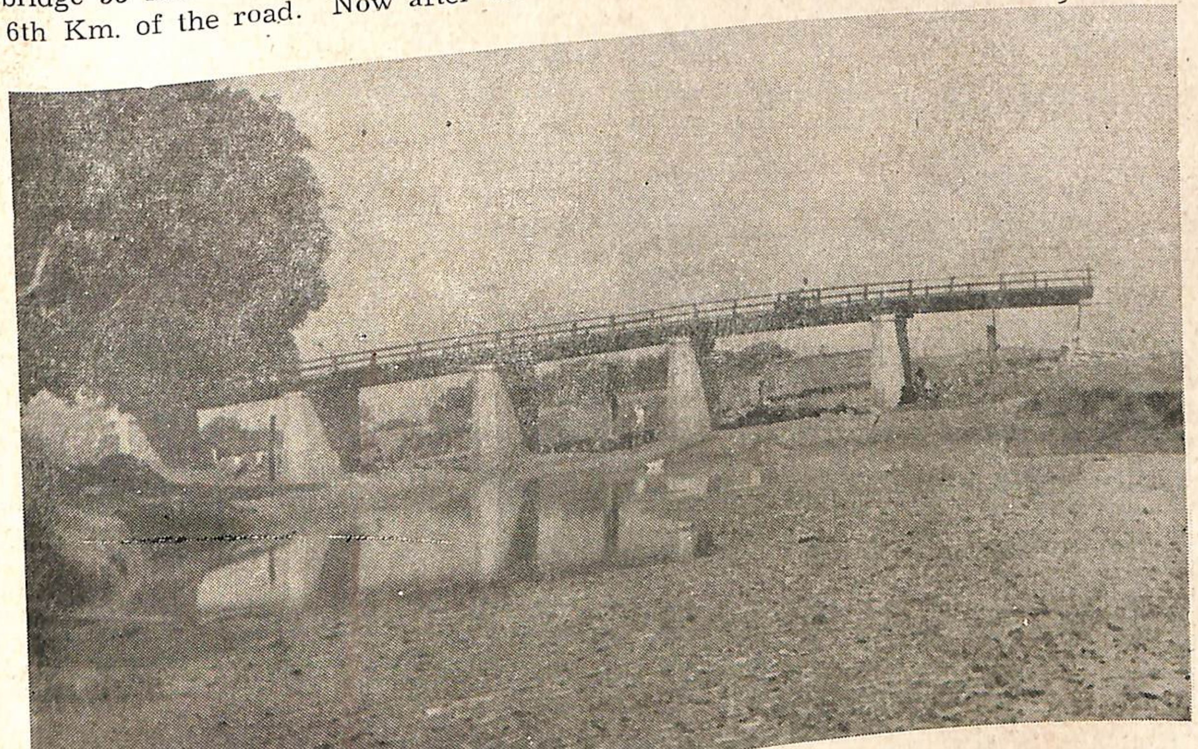
We are conscious of prevalent prejudices in our society as in every society. So long as they are dormant, there is no danger. But when they move sections of community to perpetual intolerance and injustice, conflicts arise. The absence of correct and credible information or the malfunctioning of the channels of communication has its own impact on latent suspicions and hostilities. On the other hand, where information is controlled, over regulated or interrupted, rumours have free play. Everybody believes in whispers. It is a natural tendency. Interpersonal communication help spreading rumours, and it is easy to influence people, because of psychological and sociological factors built up through ignorance and superstitions. In such cases we are to fight three things: fear, ignorance and misinformation and radio can do so not only by giving correct information but also in giving such type of information which would help alleviating the situation. Communal and social prejudices can be fought by long range planning of programmes over radio. Unless we bring about an attitudinal change and behavioural change, we are not going to achieve much in the field of agriculture, health or hygiene also. We are to communicate the findings of research which is taking place in our agricultural farms, and laboratories. It has to reach the farmers and to the field workers. Man to man contact can do so but at what cost of time and money? Intelligent and practising farmers are taken to radio. It is the voice of the man, who has done the job, that has greater conviction than all the printed materials. We have already entered the television age and we are going to take advantage of face-to-face communication. But till such time television spreads, we are to use the spoken words through radio.

We have radio transmitters that cover some 81 per cent of the area of the country to carry the messages across. Now the question is whether there are enough radios in the country. In Tamil Nadu, Haryana and Punjab there is not a single village without radio. The picture in Orissa, Bihar, Madhya Pradesh and other States is not so bright. But there is a great deal of interest in listening to radio and with little effort we can improve the position in these States also. When we sanction construction of a road culvert, we also provide for the diversion road as it is a part of the job. So in every planning and programme, there should be provision for mass communication also; which can be judiciously used to improve the positoin of radio sets. These listening Centres can be used as a contact point for all programmes and the Extension Officers working for them. Supplemented by organised listening we can hasten the process of development of the countryside. Without mass communication not only the process is delayed but the cost also increases. Though late, we must take stock of the situation and prepare ourselves to provide for, and utilise the radio to our advantage.

Senior Maintenance officer
Information & Public
Relations Department
Bhubaneswar.

Improvement to Jankia-Siko Road under Minimum Needs Programme

There is a classified village road starting from Jankia at mile 713/2 of N. H. 5. The length of the road taken up for improvement is 14 Km. The road connects big villages, i.e., Rambhabil, Chanagiri, Hujo, Naragoda, Siko etc. It was an earthen road only. There was a damaged wooden bridge 55 meters long on Nuanai river at 6th Km. of the road. Now after the improvement work has been taken up in hand, the damaged wooden bridge has been dismantled and a new one constructed in the its place utilising an allotment of Rs. 2·48 lakhs out of F. D. R. grant photo of the bridge is 55 metres long. It consists of 5 spans, middle three of the spans are each of 8 meters and end two



Wooden decking bridge with concrete pier and iron joists at 6th Km. on Jankia-Siko Road under M. M. P. consisting of 5 spans. The middle three spans are 8 metres and the end two spans are of 7·5 metres each.

spans are of 7.5 meters each. The abutments and piers are of cement concrete. Road decking comprises of R. S. joist 22 Nos . placed over the five spans over which wooden sleepers and wheel-track has been provided. The joists have been obtained from some of the old dismantled bridges near Sambalpur and carried to work site on long, trailers. The hoisting and placing the joists in position has been done with the help of long-boom cranes.

The road has been provided with two layers of metalling and black topping up to 9 Km. 6 Nos. of bed level causeways one No. of H. P. culvert have been constructed. All-weather communication is now available up to village Siko and regular buses ply upto Siko village. A sum of Rs. 2.59 lakhs has been utilised out of improvement grant under M. N. P. and Rs. 1.30 lakhs has been spent out of maintenance repair grant. Over and above this 40 M.T. of food grains have been also utilised to achieve the present stage of development of the road.

Hitherto, the road was not fit for any vehicular traffic and the villagers were crossing the Nuanai river by boat during monsoon period. Now by bus, the villagers come to National Highway junction at Jankia and go to any place with easy and comfort. All the people in the villages along the road and near about, depend entirely on this road for all their needs of transportation. This all-weather road has greatly contributed for the development of the rural economy and towards removal of the isolation of so many villages by providing increased accessibility. This has also resulted in lower transport cost of agricultural inputs and farm produce and enlargement of market facilities. It is seen that all types of transport like rickshaws, three-wheeler autos, cars, buses and trucks move freely on the road along with the traditional animal drawn carts. The improved good condition of the road with black topped surface also contributes towards the reduced fuel consumption of the motorised transport, saving the costly and scarce oil in the present day oil cisis.

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THIRD MOBILE UNIT FOR PREVENTION OF BLINDNESS IN THE STATE

Government of India have sanctioned a 3rd Mobile Unit for implementation of the National programme for prevention of blindness. At present there are 2 mobile units attached to the S. C. B. Medical College, Cuttack and V. S. S. Medical College, Burla. A third mobile unit will be attached to the M. K. C. G. Medical College, Berhampur. Eye camps will be organised in different parts of the State with the help of these mobile units and Ophthalmic experts from the Medical Colleges and from the field organisation of the State.

OUR EFFORTS SHOULD BE DIRECTED TOWARDS SPEEDY HARNESSING OF THE MINERAL RESOURCES

The Chief Minister of Orissa, Shri Janaki Ballav Pattnaik called upon the Geo-Scientists, Mining Engineers and Allied Technologists to put up best of their efforts in exploring and harnessing the rich mineral rescurces of the State within quickest possible time. Inaugurating the Society of Geo-Scientist and Allied Technologists at Bhubaneswar on November 2 and referring to the new industrial programmes of the State, which are in the pipe line. Shri Pattnaik said that successful implementation of 'the projects largely depended on the massive efforts of the Geo-Scientists and Allied Tachnologists.

The text of Shri Pattnaik's speech is reproduced below.

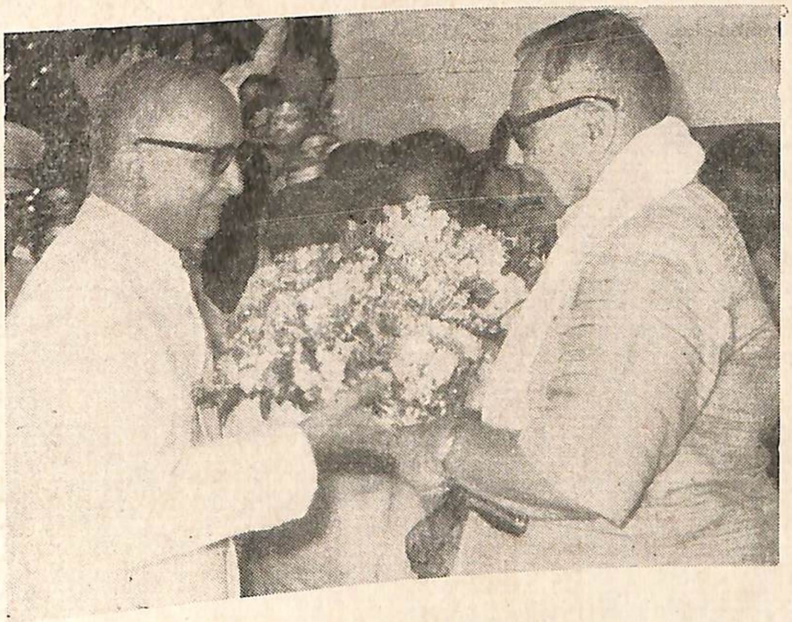
"I am glad to note that the Geo-Scientists, Mining Engineers, Metallurgists and Technologists of allied disciplines have formed a society, with promotion of economic growth of the country, as one of their avowed objectives. Industrial Society of to-day is heavily dependant on availability and utilisation of minerals oil and potable water. We need all these in increasing measure for our sustenance and growth. A very great responsibility rests upon the Geo-Scientists, Mining Engineers and Metallurgists to ensure that minerals and ores, needed by our ever increasing population are located and extracted from the earth's crust and processed for production of metals of various kinds, at economic cost. Therefore, the members of your society have a very important role to play in shaping the economy of our country in the years to come.

"An Earth-Scientist deals with raw materials which are several million years old. It is he who treads and explores the virgin earth in search of minerals that we need. Recent developments have made it possible to win minerals from deep down the ocean floors and several kilometers deep inside the earth's crust. Geo-Scientists are also on the look out if the extra-terristrial bodies hold mineral treasures for our use. These are exciting possibilities. Ingenuity of science and technology coupled with a honest, dedicated and determined approach can bring wonders. I am sure, the members of the society will not be found wanting in facing the challenges of the present and future.

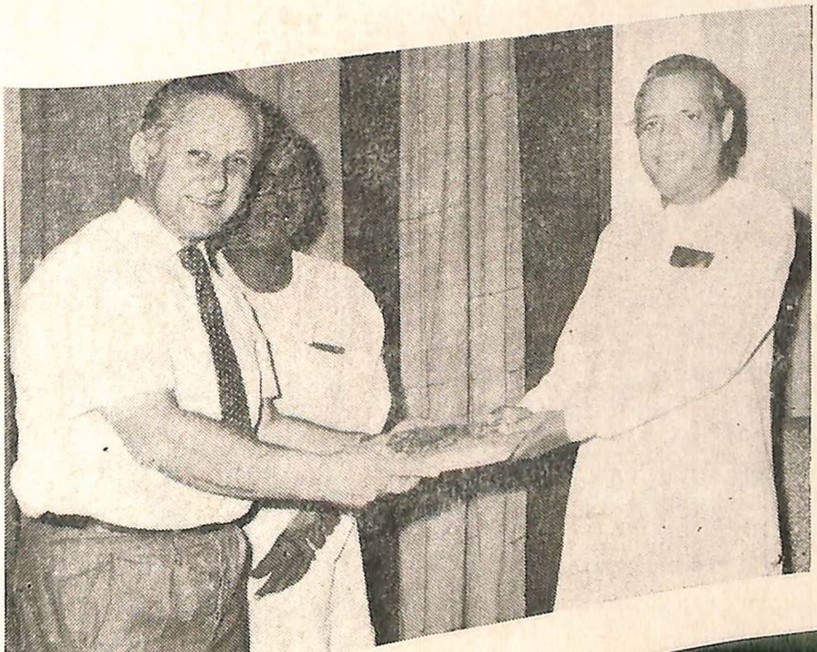
"We have set an ambitious programme of industrialisation in Orissa. Minerals undoubtedly constitutes the pride of place. A massive Alumina-Aluminium Complex has been sanctioned. A large iron and steel plant will be set up near Paradip. It is proposed to commission a Super Thermal Power Plant in Talcher area, two Charge Chrome Plants, Cement Plants and a number of other mineral-based industries during the Sixth Plan period. Successful implementation of these projects calls for massive efforts. The Scientific community which is involved with different aspects of Geology, Mining, Metallurgy and overall mineral development of the country in the Universities, Survey Organisations, Research Institutions and Government Departments would have to put in their very best in order that the targets set by us are achieved. As the Society has promotion of economic growth of the country in view, I would call upon all of you, in whichever position you are placed and organisations you serve, to strive to fulfil the above objective. There are immense possibilities in the State and in the country. We have explored and harnessed a very small portion of our natural resources. The industries that I have indicated are only a very few in the chain of industries that can be set up in the State and other parts of the country. We have very large reserves of non-cooking coal, which can generate abundant power besides constituting feed stock for production of fertilizers and possibly in the production of iron and steel, ferro-alloys, etc. I am sure that you are aware of all such possibilities and our efforts should therefore be directed to harness these within the quickest possible time. The efforts of the Government at the State and Centre will not be adequate for achievement of the objectives, which we have set forth. Support from non-official organisations and societies like yours would always be needed and I hope these will be forthcoming in abundant measure.

"With these words I have great pleasure in inangurating the Society of Geo-Scientists and Allied Technologists, which I hope will broaden its base to accompolish the objective of overall economic development of the country and betterment of the living conditions of our people."

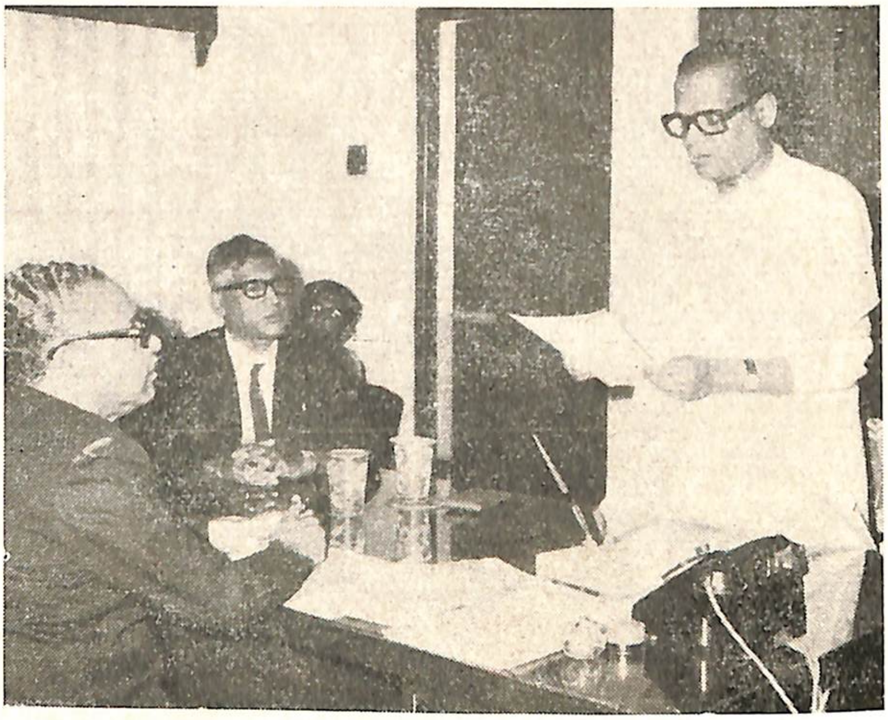
Shri C. M. Poonacha, Governor of Orissa, inaugurating the Flower token sale campaign at Raj Bhavan on November 14, 1980.



Shri C. M. Poonacha, Governor of Orissa, felicitating Dr. Harekrushna Mahtab on his Eighty-second Birth-Day at Ekamra Nivash, Bhubaneswar on November 21, 1980.

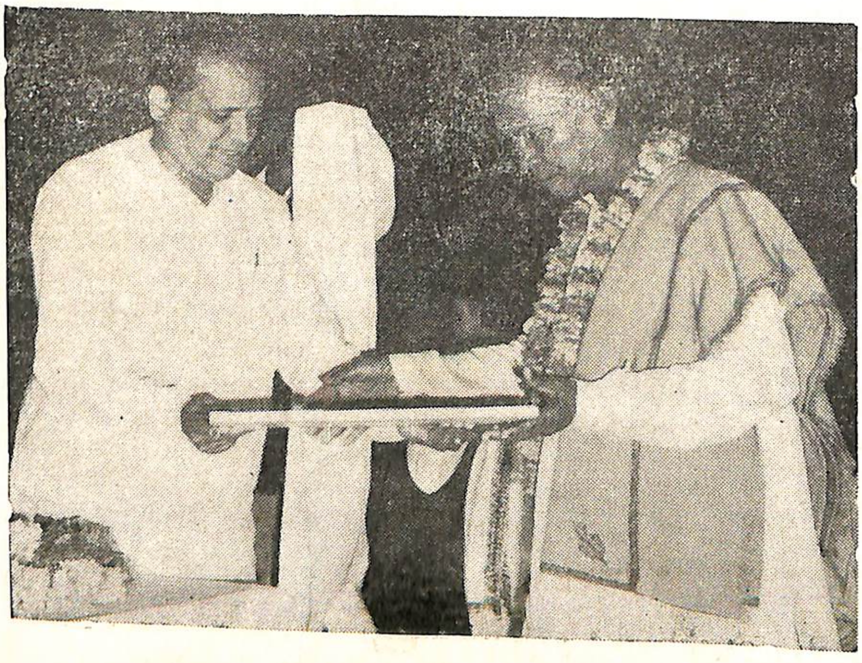


Soviet delegates from Lithuanian Republic call on the Chief Minister Shri J. B. Patnaik on November 15, 1980.



Chief Minister, Shri J. B. Patnaik taking Oath as Member of Orissa Legislative Assembly on December 4, 1980.

Chief Minister, Shri J. B. Patnaik delivering his inaugural address at the Annual Conference of the Non-Gazetted Statistical Officer's Association at Bhubaneswar on December 17, 1980.



The Chief Minister, Shri J. B. Patnaik presenting awards on the occasion of Annual Award Ceremony of the Orissa Sangit Natak Akademi on December 12, 1980 at Bhubaneswar.

Drought Management in Orissa in 1979-80

Orissa has a land area of about 15.5 million hectares, 5% of India's total and a population of 22 millions. The State has 13 Administrative Districts, 57 Subdivisions, 314 Community Development Blocks and 3,830 Grama Panchayats. Besides, there are 27 Municipalities and 65 Notified Area Councils. Forest covers 32 % of the area and other uses account for 24 %, leaving only about 6.7 million hectares for cultivation.

Farmers and agricultural labourers account for 77 % of the total labour force. Between 1961 and 1971 the number of the work-force dependant on agriculture grew by 7 %, while in the country as a whole it tended to fall. Scheduled Caste and Scheduled Tribe constitute about 40% of the population, concentrated in the more backward districts. Although the State's net domestic product per capita increased at 1.7 % per year between 1960-61 and 1972-73, the gap between average *per capita* income in Orissa and the rest of India has been growing. In 1971-72, the Orissa figure of Rs. 469 at current price was 75% of all-India level. In 1978-79 it was estimated that more than 85% of the Orissa population was estimated to be living below the poverty line (Rs. 20 per month at 1960-61 price level) compared with 40% for all-India.

Agricultural situation:

Agriculture is the mainstay for the bulk of the population. It is the main source of employment and livelihood for 76 % of the population. The gross sown area is 8.275 million hectares and net cropped area is 6.1 million hectares. Irrigated area in 1978-79 was 1·15 million hectares representing 18.8% of the cultivated area. Agriculture, thus, continues to be a gamble on monsoon. The land mass of Orissa just into Bay of Bengal. It receives its monsoon mostly as a result of depressions and cyclonic storms formed in the Bay of Bengal. There are, therefore, wide fluctuations both with regard to the time as well as the quantity in the case of rainfall. The preponderance of paddy crop which has a high water duty makes the agricultural economy of Orissa extremely vulnerable. Per centage of area under rice in Orissa is 69 % as against 27.15 % for the country as a whole.

The total average rainfall is about 1500 mm. but about 80 per cent falls in about 60 days during June—September monsoon (Khariff). While in total it appears sufficient for crop growth, the erratic pattern of precipitation particularly at both ends of the season imposes a severe constraint on smooth agricultural operations.

The residual soils of the uplands are predominantly laterite, highly leeched and acidic, low in organic matter and nitrogen. They tend to be shallow, sandy and erodible in the uplands with associated low water holding capacities. Crop loss in such areas is maximum during failure of monsoon. About 60 per cent of agricultural lands in Orissa belong to the category of high and medium lands.

The unprecedented drought of 1979 was caused by both the shortfall in the quantum of rainfall and its widevariations between different parts of the State.

The vagaries of the weather affect the agricultural economy almost regularly—droughts and floods are recurrent features and the economic development of the State has been arrested due to the inherrent compulsions of such natural calamities. Consequently agricultural production has remained stagnant during the last decade. During the last decade alone the State had to face severe drought situations in seven years and flood situations in all the ten years. Disaster preparedness and relief has become almost a normal part of administration. A well defined strategy has been evolved based on past experience to tackle the distress caused by the serious natural calamities.

Drought of 1979:

Due to erratic behaviour of the rains both over time and spare the State sufferred heavy crop-loss in Khariff, 1979 and in the Rabi coverage and production was adversely affected due to continued dry spell. During the crucial months of July and August when bulk of the planting normally takes place, the scanty rains prevented the farmers from planting vast areas of paddy. Moreover, as the fields dried up, weeding and interculture operations could not be taken up. Failure of pre-monsoon rain followed by intermittent scanty and erratic rainfall for a short period which gave place to prolonged dry-spell gave sufficient warning of imminent drought. An analysis of rainfall data for the period from June to September, 1979 reveals that while the State average was about 30 per cent less than the normal, in many districts it was less than 50 per cent of the State average. The inter-district and intra-district variations were very wide. There was inadequate rainfall at moments crucial for grain formation. Scanty winter rainfall made matters worse belying all hopes of a massive Rabi programme to compensate the Khariff loss.

By the 3rd week of August, 1979 when rains had almost stopped, much anxiety was felt about the condition of the standing paddy crops. As in previous years of drought the State Government detailed teams of officers to different districts to make a personal assessment of the crop condition. The teams consisted of the officers in-charge of Relief Operations and the officials of the Agriculture Directorate. After visiting different areas, the teams reported about the severity of the situation and the sizeable crop loss which may result if the behaviour of rainfall continued to be erratic. Incidentally, according to the assessment made by these Teams, a loss of about 14 million tonnes was then apprehended which was fully corroborated by the crop-cutting experiment taken up later. Subsequently, a quick survey was made and on the basis of eye estimation 2319 Panchayats were declared as drought affected where crop loss was estimated to exceed 50 per cent. This was followed by regular crop-cutting experiments.

Results of crop cutting experiments taken up to assess the crop loss indicated that in all the 13th districts of the State, 26,253 villages sustained crop loss of 50 per cent or more. These villages are situated in 2,609 Grama Panchayats out of a total of 3830 Grama Panchayats in the State. On the whole, a population of 13·636 million was affected by the drought situation in the State. The cropped area affected was of the order of 4·36 million hectares.

Apart from crop loss there was acute distress in drought affected areas due to scarcity of drinking water. A large number of wells and other drinking water sources dried up posing a many serious problem.

Crop damage and Agricultural Survey:

A two pronged drive was launched as soon as it became clear that the State was facing an unprecedented drought. Saving as much of Khariff crop as possible, maximising Rabi cultivation and provision of relief to affected persons constituted the major plans of this drive.

During the continued dry spell, instructions were issued to impound water wherever for saving the paddy crops by putting cross-bunds on streams, nalas and river, etc. For this purpose, an amount of Rs. 2,404 million was spent and 5016 cross-bunds were put up which could save about 80,000 hectares of standing paddy crop.

75 per cent subsidy was allowed on hire charges of diesel pumps of Lift Irrigation Corporation, Blocks, Panchayats and Co-operatives to save the crop in as many areas as possible. This resulted in saving the standing paddy crop in an area of 25,000 acres.

Lift Irrigation points were immediately put to use to save the crop wherever feasible. For this purpose, a subsidy of Rs. 20·80 paise per acre was allowed, the original water rate per acre being Rs. 23·80 paise. By this measure it was possible to save about 25,000 acres. Farmers were also advised to substitute their paddy crops in the high and medium lands with crops like millets and pulses which required less water, with the hope that there would be some rain in September and October. In fact, farmers in large tracts in the seriously affected districts of Phulbani, Dhenkanal, Bolangir, Kalahandi and Sambalpur acted upon this advice, ploughed up the withering paddy and took up pulses and oil-seeds. But unfortunately the expected showers in October and November also did not come and even these non-pady crops could not give optimum yields. Thus as against the total food grain production of 4·7 million tonnes in 1978-79, the production in 1979-80 fell to the level of 3·1 million tonnes.

Rabi 1979-80 :

In the context of the disastrous Khariff, a Rabi Programme was developed to make good the Khariff loss to the extent possible by covering more than 4 million hectares. In view of the moisture stress as well as in adequate re-charging of ground water resources, emphasis was put on higher duty crops lik Ragi, wheat, ground-nuts, mustared and pulses. Due to in adequate rains irrigation sources were going through a severe strain and even a major Reservoir like Hirakud could not supply adequate water. As a result, as against the normal irrigation of 1·1, million acre ft for Hirakud and 2·3. million ac. ft for Delta system, supply of only 0·8 million ac. ft. for Hirakud and 1·7 million ac. ft for Delta could be assured. In the case of medium irrigation projects, there was little scope of any heavy duty irrigation and in respect of minor irrigation projects, there was little scope of any heavy duty irrigation. In many of the irrigation projects, there was more or less complete failure of Rabi irrigation. With this background our Rabi programme was as follows :—

(a) Paddy was recommended in the low-lying areas in the commands of irrigation projects which had adequate water supply;

(b) In the commands of projects which could assure supply of water upto February or March. medium duty crops like wheat, millets, ragi, pulses and oil-seeds like mustard were encouraged;

(c) In the purely rain-fed areas, pulses and oil-seeds like mustard which could be sustained with residual moisture supplemented by light rains during the Rabi season were to be taken up.

These expectations were also not achieved as the few showers needed for the Rabi crops did not materialise. Thus, against the last years Rabi programme of 2·6 million hectares, the performance during 1979-80, Rabi could only be 2·3 million hectares.

To sum up, therefore, during 1979-80 agricultural season, not only there was a serious failure of Khariff crop, but there was also substantial reduction in our Rabi coverage.

Relief Programme:

Our main strategy in Relief Operation was to provide employment to all able-bodied unemployed persons nearer their houses through labour intensive works to provide succour by way of Gratuitous Relief to all old, infirm persons and children having no other means of sustenance and to pre-school and school-going children, nursing and expectant mothers by way of feeding programmes. A massive contingency plan to tackle the drinking water problem was also drawn up and implemented. Thus, labour intensive works, Gratuitous Relief feeding programme and provision of drinking water facilities constituted main ingredients of the drought relief programme.

Labour Intensive Works:

In regard to provision of employment, it was considered necessary to ensure continuous employment for atleast 500 persons per G. P. at their door-step with a view to enabling them to increase their purchasing power. With this end in view, all plans and non-plan schemes were recast and funds earmarked for non-drought areas were diverted to drought-affected areas. Food for Works both under normal and special, were intensified, in areas where plan and non-plan funds were found inadequate, test relief works were initiated out of Margin Money linked up with grain at the ratio of 1:3.

Besides Test Relief, food-grains received under normal and special Food for Works Programme were utilised to supplement the monetary outlay on works incurred by various departments. The Community Development Department which is incharge of local works, like tanks, wells, rural roads, etc. has been the major beneficiary.

The target of providing employment to 500 persons per Panchayat for 20 days in a month could, however, not materialise despite the massive investment of over Rs. 1368.5 millions in terms of cash and grain. The actual achievement for the period from November 1979 to June 1980 however worked out to 266 persons per Panchayat for 25 days in a month for 8 months.

A comprehensive works programme containing a shelf of projects was prepared for the drought affected areas. The shortfall achievement in respect of employment was not due to want of schemes. Irregularity in supply of grains and inadequate technical support were the major constraints.

Apart from the funds provided out of the State Plan and Margin money, Government of India came forward with additional support in the form of Advance Plan allocation. Two Central teams visited the State one during October 1979 and another in may 1980. The total outlay involved was of the order of Rs. 205·9 million.

The labour intensive works executed in the drought affected areas resulted in creation of durable concrete assets. The works numbered 62,721. These related to Medium Irrigation Projects, pisciculture tanks, drinking water wells and tanks, rural roads, smaller minor irrigation projects, drainage channels, soil conservation works, etc.

Institutional finance was also availed of for a sizeable programme of dug-wells. About 51,955 dug-wells have been financed with a loan of Rs. 138·98 millions during the last season and at the rate of 300 mandays per dug-well, this programme had also provided employment opportunities to the tune of 15.59 million mandays. This has not been included in the figures indicated earlier. Similar employment opportunities had been provided with bank loans through other private labour intensive works relating to land improvement, etc.

Besides creation of new assets and maintenance of existing assets, special attention was also paid to ensure flow of adequate production credit. Rs. 12 crores representing short-term credit of Co-operative institutions were converted to medium-term loans with the help from Government of India. Enrolment of new members and increasing the borrowing capacity of existing members received special emphasis. A sum of Rs. 10 million has been sanctioned to give loan at the rate of Rs. 22 per nonmember who is to be enrolled a new member and Rs. 20 per existing members who do not have the requisite borrowing powers.

With a view to tackle the problem of defaulters on accounts of paddy loan, it was decided that the overdues on account of this would be collected in 5 annual instalments beginning from July 1981 and these defaulters were made eligible for fresh finance.

The drive for membership and larger disbursement of credit is being continued vigorously during the current Khariff with a view to maximise production during this year.

Special efforts have also been made to maximise supply of imputs. Supply of seeds by Agriculture Department normally meet 0·5 per cent of the requirements of the cultivators. This year 90333 quintals of seeds have been arranged representing 1·8 per cent of requirements. This has meant a step up of 6,577 tonnes. Imput subsidy at the rate of 25 per cent for small farmers at 33 1/3 per cent for marginal farmers and 50 per cent for tribal in respect of seeds and fertilisers being continued.

Mention should also be made of the massive plantation programme that is being undertaken during the current monsoon. It is programmed to cover 26.875 hectares.

Gratuitous Relief :

Gratuitous relief was provided right from the month of November 1979 till date and it is proposed to continue it till September, 1980. While 58,598 beneficiaries were covered under the scheme by end of December, 1979, the coverage is 0·306 million by end of June 1980. Gratuitous Relief is given at the rate of 290 grams and 170 grams of rice/wheat per adult and per child respectively per day. The expenditure incurred on this account is of the order of Rs. 24·215 million till end of June 1980. Of this a sum of Rs. 2·5 million was spent by the end of December 1979.

Feeding Programme :

Feeding programme has been introduced in schools and Mahila Samities for pre-school and school going children, expectant and nursing mothers. As the matter stands today, 2.886 million beneficiaries are being daily fed through a net work of 36,179 Feeding Centres. This includes 0·7 million beneficiaries under the scheme for Food for Nutrition. A sum of Rs. 16·057 million has been released from Margin Money for the purpose, besides funds and grains made available by the C. D. Department. CARE and WFP have come forward with additional assistance for drought affected areas and this along with the support provided under Food for Nutrition Programme has made it possible to increase the number of benificiaries from 18·32 lakhs to 28·86 lakhs.

As a measure of relief, the State Government have exempted the School and College fees of students belonging to families of small and marginal farmers and agricultural labourers for the period from the 1st November 1980 to the 31st May 1980. The financial implications of this will be about Rs. 10 million.

Food For Works :

As already indicated Labour Intensive Works under F. W. P. were intensive in the drought affected areas. Utilisation of grain both under normal F. W. P. and special F. W. P. was 10,9054 Mts. by end of December 1979 and the utilisation was substantially stepped up to 254,838 metric tonnes by the end of May 1980. The value of food-grains utilised under the programme is Rs. 362·1 million. Besides facilitating massive expansion of relief works this programme is mainly responsible for containing the price line of foodgrains in drought affected areas.

Drinking Water :

Provision of wells and tube wells in the villages has been given priority under the Five-Years Plans. Out of 46,992 inhabited villages in the State with a population of 20·1 million about 7,575 villages have not been provided with drinking water sources out of Government funds. In the other villages where a well or a tube well has been provided, the number is not commensurate with the population to be served. In 1972, a survey had been undertaken and 19,284 villages were identified as problem villages. Out of this, 12,141 villages were to be provided with tube-wells and 7,143 villages with sanitary wells. During recent drought it was noticed that there are a number of other villages not included in this list which suffer from acute drinking water scarcity. A new survey has been undertaken and 7,793 additional villages have been identified for inclusion in the list of problem villages. The requirement of sanitary wells and tube-wells for these villages according to the norm of one well/tube-well for 250 population is estimated to be 63,828.

During November 1979 to June 1980, the distress caused due to scarcity of drinking water was sought to be relieved by sinking as many as tube-wells as possible, completing the incomplete sanitary wells and digging new sanitary wells, provision of temporary water-supply sources locally known as chuhas and chahalas and arrangement for transport of water in extremely difficult areas. During 1979-80 5,611 tube-wells and 3,519 sanitary wells were completed. Between March and June 1,439 tube-wells and about 2,500 number of sanitary wells were expected to have been completed. Non-availability of sophisticated rigs placed a severe constraint on execution of much larger tube-wells programme. All possible sources were tapped and rigs were even obtained on loan from Karnataka and Gujrat. After doing the maximum in respect of wells, sanitary wells and tube-wells, immediate relief was provided by taking up massive programme of construction of chuhas and chahalas. A sum of Rs. 5·74 million was provided out of Margin Money till the end of June and about 24,000 temporary surface wells were constructed. Besides, a large number of existing wells were deepened. A large number of tanks renovated under the test relief programme also came in handy for providing drinking water.

Arrangement were made for transport of water through tractors and trailors in the urban areas of the drought affected pockets. Special schemes existing in some of the areas were improved to provide additional water. A special programme was also taken up to dig tube wells in urban areas. Funds were also provided for renovating tanks in these areas. The total outlay through all these schemes during 1979-80 and 1980-81 amount to Rs. 20·1 million for all these special measures in urban areas.

Health Measures :

A sum of Rs. 2 million was provided out of Margin Money for undertaking health/public health measures in the drought affected areas for ensuring health cover to the affected population. The following are the details of achievement by end of June, 1980.

No. of water sources disinfected	5,36,470
No. of innoculations given against cholera.	15,54,308
Common ailments treated ..	7,88,674
Mal nutrition cases treated ..	28,998
M. V. tablets distributed ..	11,01,295
Halogen tablets distributed ..	1,77,266
Primary vaccinations done ..	95,183

VETERINARY MEASURES:

A sum of Rs. 2 million was also given out of Margin Money to the Animal Husbandary and Veterinary Department for the cattle health programme in the drought affected areas. The amount was intended for purchase of medcines, vaccines and distribution of fodder. The physical achievements under the programme till end of June, 1980 are indicated below:—

No. of cattle innoculated	..	21,32,821
No. of cattle vaccdinated	..	3,30,442
No. of cattle teated	..	40,75,421
Cost of fodder distributed free		20,000

Special Assistance given to small and Marginal farmers.

Rs. 23 miilion was allocated out of advance plan assistance received during 1979-80 for payment of subsidy to small and marginal farmers as detailed below:—

	(Rs. in million)
Subsidy for seeds (25 per cent and 33 1/3 per cent to small and marginal farmers respectively).	1
Subsidy for non-nitrogenous fertilisors (25 per cent and 33 1/3 per cent to small and marginal farmers respectively).	4
Subsidy for dug-wells (25 per cent and 33 1/3 per cent to small and marginal farmers respectively).	18

This amount has been fully utilised by end of June, 1980.

Distribution of Essential Commodities

An important feature of the drought management programme relates to the arrangements made for ensuring regular and adequate supplies of essential commodities and holding the price line. The basic structure of fair price shops at the village level and composite storage depots at Block level were set up according to National Guidelines. By the end of June, 14,141 fair price shops had come into being. Fair price shops have been set up at the rate of one for 1,000 population in tribal areas and one for 2,000 population in other areas. In view of the large distance between fair price shops and the base depots maintained by tre Food Corporation of India, it was decided that composit depots to store rice, wheat, sugar, kerosene etc. should be set up at Block level.

The arrival of various essential commodities at the base depots and their movement to Block level depots and retail shops are under constant review. A high level meeting is taken by the Chief Secretary and the Special Relief Commissioner with the representatives of Food Corporation of India, Oil Companies and the Railways each Monday to review the position in respect of movement of essential commidities.,On the spot decision are taken to divert stocks to deficit areas and arrainging transport by road in emergent cases. There is also a high level committee presided over by the Chief Minister with the peoples' representatives to advise on the basic policy matters.

At the District Level, the Collectors are keeping continuous watch on tre situation relating to supply and distribution of essential commodities and sending weekly reports.

The position regarding diesel and kerosene has become very satisfactory. With regard to food grains, the supply position has been very tight and it has always been the question of hand to mouth existence.

Apart from regular check exercise by the supply staff in the districts, subdivisions and blocks, special squads have been set up at district level to make surprise checks.

It may be mentioned that the continuos attention paid for ensuring adequate supply of essential commodities has been responsible for keeping the prices under control during the most difficult period in the drought affected areas.

Administrative set up:—

The essential requisites for sucessful relief administration or disaster preparedness is comprehensive contingency plan and proper administrative set up with well defined functions. As already mentioned earlier, Orissa is exposed to natural calamities almost every year. The administrative mechinery at all levels is, therefore, in a state of preparedness to meet the distress caused by natural calamities. A set of detailed instructions are available regarding the various items of work to be done during the drought, floods and other natural calamities. A comprehensive Relef Code has also been prepared.

The Relief Administration is handed by Special Relief Commissioner who is also the Member, Board of Revenue. He has been given very wide powers with regard to administration of relief funds and also co-ordination and control of activities of other departments relating to drought and relief measures. As Member, Board Revenue he is the head of the State's revenue hierarchy, comprising Revenue Divisional Commissioners at the Divisional Commissioners at the Divisional Level, Collectors at the District Level, Subdivisional Officers at the Subdivisional Level, besides, Tahasildars, Revenue Inspectors etc. who are functioning below the Subdivisional Level. During times of natural calamities, the Special Relief Commissioner-*cum*-Member, Board of Revenue is in a position to press this elaborate machinery into service. In view of the unprecedented nature of the last year's drought, an Additional Relief Commissioner of the rank of Revenue Divisional Commissioner has also been made available to the Special Relief Commissioner. The headquarters organisation consists of one Deputy Secretary, one Deputy Relief Commissioner, two Under-Secretaries, two Assistant Financial Advisers and other staff. A distinct feature of the Relief Organisation of Orissa is the port Engineering Organisation which maintains a fleet of 103 power boats. This has become necessary because of frequent floods. This organisation is headed by a State Port Engineer and an Assistant Mechanical Engineer and a host of technical staff for the plying and maintanance of the power boats.

At the Divisional Level, the Revenue Divisional Commissioners over-see the work of the Collectors. At the District Level, the Collector who is the Chief Relief Officer is assisted by a whole-time Emergency Officer. In five worst affected districts special Additional District Magistrates were posted during the peak of the drought sesson. At the Subdivisional level also whole-time Emergency Officers were posted in the worst affected subdivisions. The Subdivisional Officer who is in-charge of the relief work at the Subdivisional level operates through the B. D. Os. and the Extension staff under them.

Mention may be made also of the monitoring arrangements in respect of relief measures. Control rooms are maintained in the office of the Special Relief Commissioner and also in the Revenue Department Progress reports are received regularly through wireless every week from the Collectors. The S. R. C., the Additional Relief Commissioner, the Deputy Secretary and the D. R. C. visit regularly the drought affected areas. In addition, senior officers were being deputed every month to the drought affected districts for making detailed reviews in consultation with the Collector as well as the Subdivisional Officers.

District Level Natural Calamity Committees have also been constituted with officials and non-officials to review progress of drought relief measures and advise on various matters relating to relief.

A chart showing the Disaster Management set up in the State is given in the Annexure.

ANNEXURE

Disaster management set up existing in the State can be shown structurally as follows :—

STATE DISASTER MANAGEMENT
REVENUE DEPARTMENT
DIVISIONAL DISASTER MANAGEMENT
DIVISIONAL COMMISSIONER
DISTRICT DISASTER MANAGEMENT
COLLECTOR
SUBDIVISIONAL DISASTER MANAGEMENT
SUBDIVISIONAL OFFICER

The co-ordination and control of different relief measures is effected as indicated below :—

1. By the Special Relief Commissioner	..	At the State level
2. By the District Collector	..	At the district and subdivisional level

The co-ordination and implementation of disaster management can be structured as indicated below :—

AT STATE LEVEL
REVENUE MINISTER
SPECIAL RELIEF COMMISSIONER

Voluntary organisation giving aid
Committee for co-ordinating activities of Voluntary Organisation

State level Natural Calamities Committee
Army assistance

DISASTER MANAGEMENT

Co-ordinating Section
Resource Section
Operation Section

AT DISTRICT AND SUBDIVISIONAL LEVEL
COLLECTOR/S. D. O.

Disaster services in the district taken up by implementing agencies.

District level Natural Calamity Committee

A. Co-ordinators

1. State level Co-ordinator	..	Special Relief Commissioner
2. District level Co-ordinator	..	Collector
3. Subdivisional level Co-ordinator	..	Subdivisional Officer

B. Disaster Managers

1. State	Special Relief Commissioner
2. Division	Divisional Commissioners
3. District	Collector
4. Subdivisional	Subdivisional Officers

C. Disaster Management

1. Co-ordinating Section	Evaluates disaster situations and decides on action to be taken, manages, co-ordinates and controls operations, disseminates alerts and warnings informs autrities ucooncerned, provides financial spportsq and reports.
2. Resource Section	Establishes the requirements for the assistance to disaster victims, and the needs to avoid damage to infrastructure installations and losses of livestock and property. Handles movement and arrangements regarding food-stuff, clothing, medical supplies, shelter, machinery and equipments and transport.
4. Operations Section	Implements the courses of action as decided by the Co-ordinating Section. Determines the employment of the "Services" at district and subdivision level. Implements the operational plans after approval of the Co-ordinating Section. Monitors and controls progress of action and proposes the employment of additional resources and prepares situation report and appropriate reports upon termination of operations.

D. Disaster Committees

1. *State level Natural Calamities Committee*—State Government have constituted a state level committee on natural calamity with the Chief Minister as Chairman for reviewing situations arising out of natural calamities and chalking out plan of action for combating them. The functions of the committee are as follows: –

(*a*) to advise Government regarding precautionary measures to be taken in respect of flood, drought and other natural calamities;

(*b*) to assess situation arising out of such calamity;

(*c*) to recommend to Government the nature and quantum of relief; and

(*d*) to recommend to Government the policy to be adopted in giving such relief in the areas affected by such calamity.

2. *District level Natural Calamities Committee*—At the district level committees on natural calamities have been constituted for each district with the Collector as Chairman and members of the Parliament and State Legislative Assembly, S. D. Os. and other district level Officers connected with relief operations as members. The functions of the committee are—

(*a*) to advise on the precautionary measures to be taken in respect of flood, drought and other natural calamity;

(*b*) to assess the situation arising out of such calamities, and to advise on appropriate relief measures and location of relief measures and location of relief works.

Courtsey : Board of Revenue

OGP—MP-XII (I. & P. R.) 67—2,000—8-1-1981

The Chief Minister Shri J. B. Patnaik presided over the meeting of the State Level Committee on Natural Calamities held on November 13, 1980 at Bhubaneswar.

Shrimati Jayanti Patnaik, giving away a prize to the best competitor who took part in fancy dress competition at Kasturba Narimahal, Bhubaneswar on the Children's Day.

4th Annual Function of Statistical
loyees Recreation Club, Bhubaneswar
held at Kalamandap on November
13, 1980.
to shows Shri L. M. Gandhi, Minister
tate for Information and Public Rela-
& Planning and Co-ordination
ng away prizes to artists as
Chief Guest

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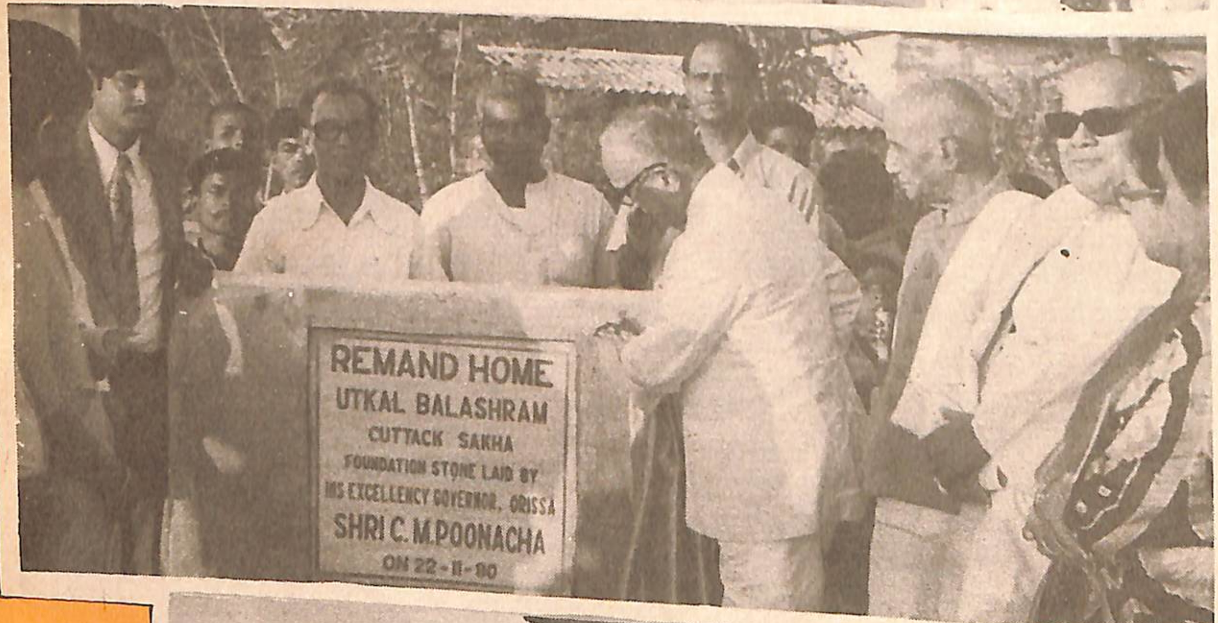
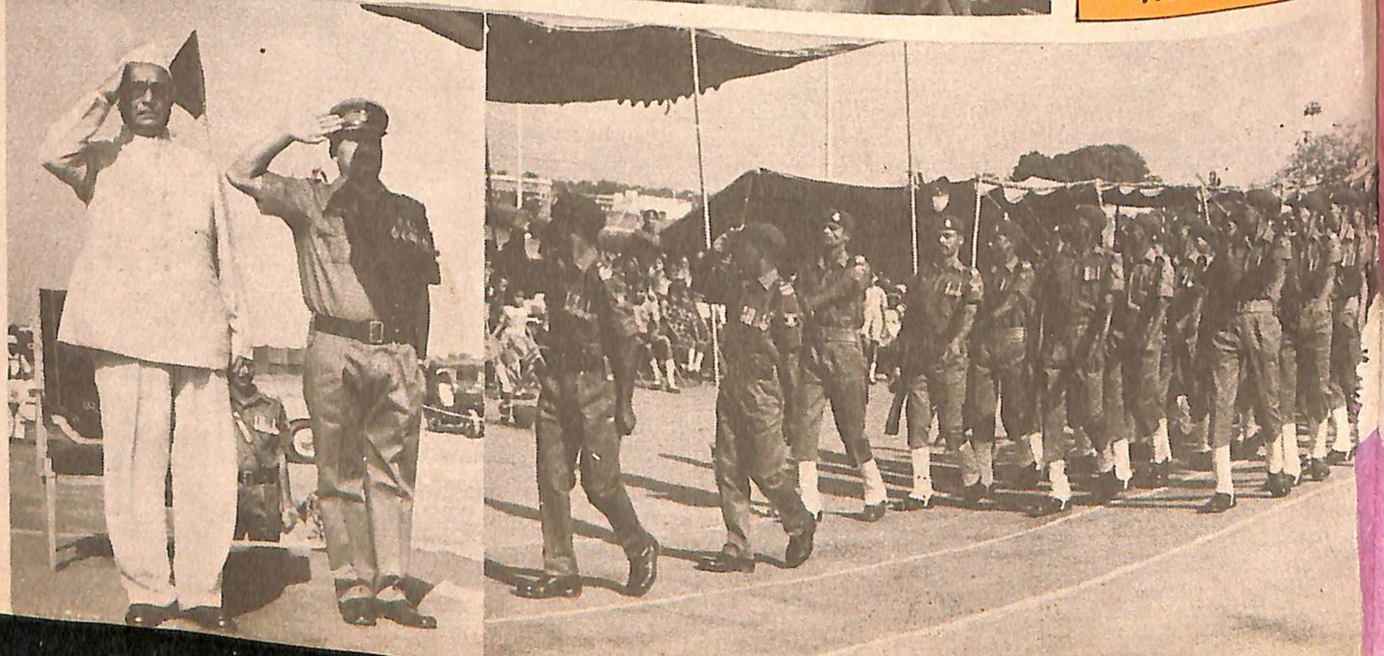
Children's Fil
Festival was inaugurated by the Chie
Minister Shri J. B
Patnaik at 'Swati',
Bhubaneswar on
November 14, 1980

Photo shows the
Chief Minister inaugurating the festival
by lighting a lamp.

Governor of Orissa Shri C. M. Poonacha laying the foundation stone of Remond Home, Utkal Balashram, Cuttack Shakha on November 22, 1980.



The Governor
Orissa Shri C.
Poonacha, taking th
salute on the 31
Territorial Army Da
Celebratio
at Bhubaneswar o
November 15, 198



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